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MODEL RAILWAY JOURNAL

- *Guy Williams builds a GWR '517'*
- *DMU 'Bubble' Conversion by Tim Shackleton*

No.93
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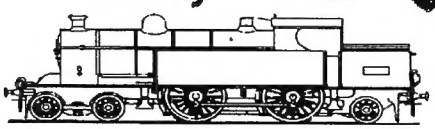

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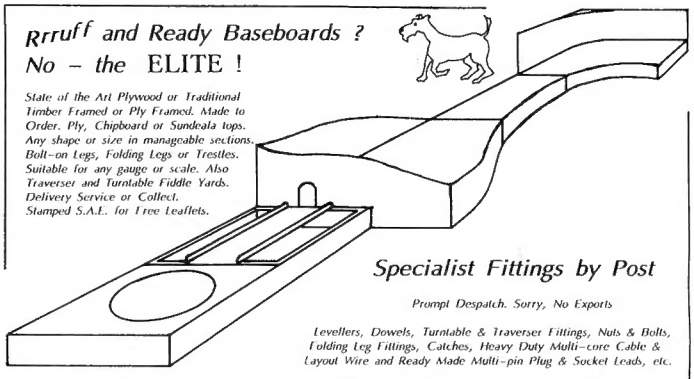

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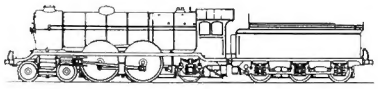

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I would like to express my appreciation to everyone who has taken the time and effort to contact me regarding the frame kits for the GEM NBR 4–4–0 locos. Your response has given me a good indication of the numbers required of each type. The artwork for these is now well advanced and the kits should be ready by May or June. A separate frame kit will also be available for the NBR 4,235 gallon tender.

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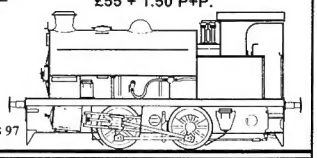

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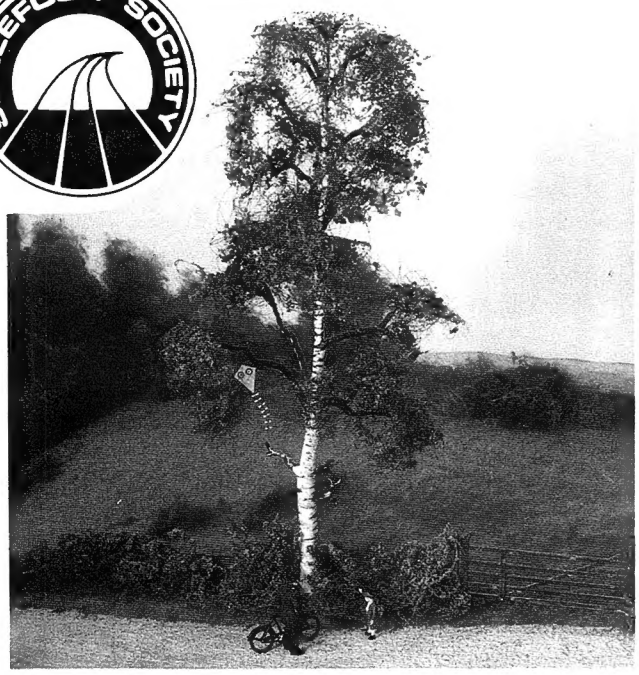

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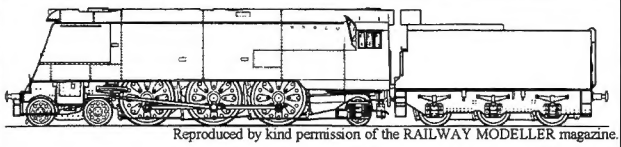

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Paradoxically, though, the cause of the line's success from the late 1900s until the exhaustion of the quarries in the 1930s proved to be its final downfall, as motor bus services poached the railway's already meagre passenger business in the 1920s and 30s. The Teign Valley branch survived the war but the skeleton passenger service was withdrawn in 1958 and the line was closed altogether by 1968.

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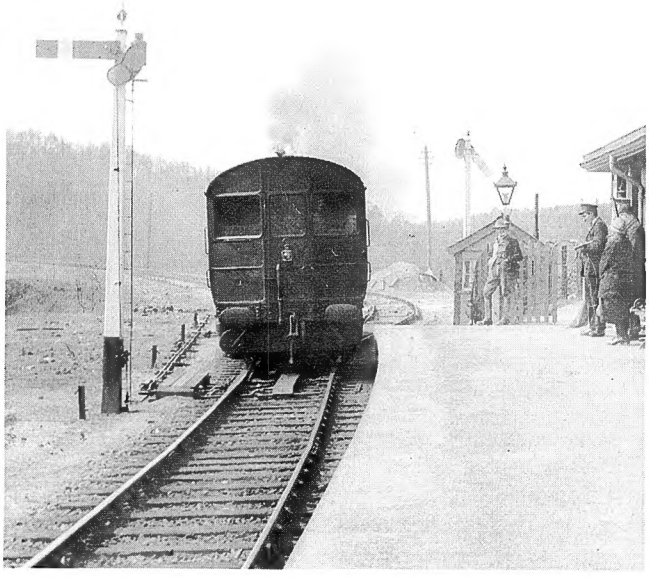

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bv David Jenkinson

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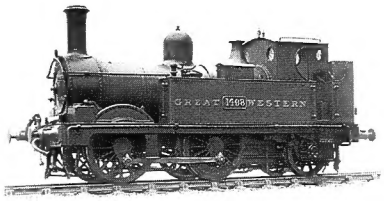

Cover photo: 4mm scale '517' class 0–4–2T No. 1468, built by Guy Williams from Malcolm Mitchell's latest kit.

On the rails...

First of all, warm thanks to everyone who wrote, sent cards, faxed or e-mailed their good wishes to me during my recent illness. I still don't know how most of these good people found out, especially those overseas, but I can assure them that their kind thoughts were extremely welcome in what was a pretty grim episode. For those of you who don't know what this is all about, suffice it to say that a gruelling year culminated with a nasty case of 'flu poleaxing my entire family. The rest of them recovered, but I carried on to do the job comprehensively, contracting pneumonia and spending over a month in bed, much of it feeling like I had a sword through my chest. Thanks to the occasional relay of 'runners' and the help and forebearance of my business partners Paul Davies (who seems to have had some enjoyable to-ing and fro-ing with some of the e-mailers) and Rowena Bordall, I managed to keep on editing, but correspondence – the postal variety – fell hopelessly behind. I'm trying to put that to rights at present, so please bear with me. But anyway, if this MRJ exudes the faint waft of cough medicine, you know why.

There's a strong Great Western flavour about this issue. As always, we could fill the entire magazine with GWR matter with no problems at all – and a sizeable chunk of the readership wouldn't mind a bit! – but we have striven for balance. Guy Williams' 517 was too good to hold over, while Clifford Williams' little bit of immodesty in naming a 7mm 'Castle' after himself (subsequently given the nod of approval by master modeller Tony Reynalds) used some kit-building wrinkles of wider appeal. We're especially pleased to have Tim Shackleton's article on the Class 122 DMU 'Bubble' hacked from a 4mm Lima original. It never ceased to amaze us how much work is required to arrive at a half-decent DMU, and it is only thanks to the likes of Lima and Hornby that we have a good starting point at all. The 'after-market' parts boys have done a good job so far, but it surely must be time for one of the finescale specialist industrialists to address this problem once and for all.

Before closing, let me remind you to see the Letters pages, where an interesting debate on exhibition operation is starting to rumble. The great thing about MRJ's correspondence columns is that one never knows what nerves are going to be touched. When Reginald Collins wrote (in MRJ No. 92) complaining that most exhibition running was intolerably slow, he was obviously speaking for many others. And Angela Halliday, in her account of her Hayling Island layout, says there are far too many glum-faced operators behind exhibiton layouts who are too busy playing with trains to give a word, let alone a smile, to the paying public. What do you think?

Bob Barlow

MODEL RAILWAY JOURNAL

Edited by Bob Barlow. Designed by Paul Karau.

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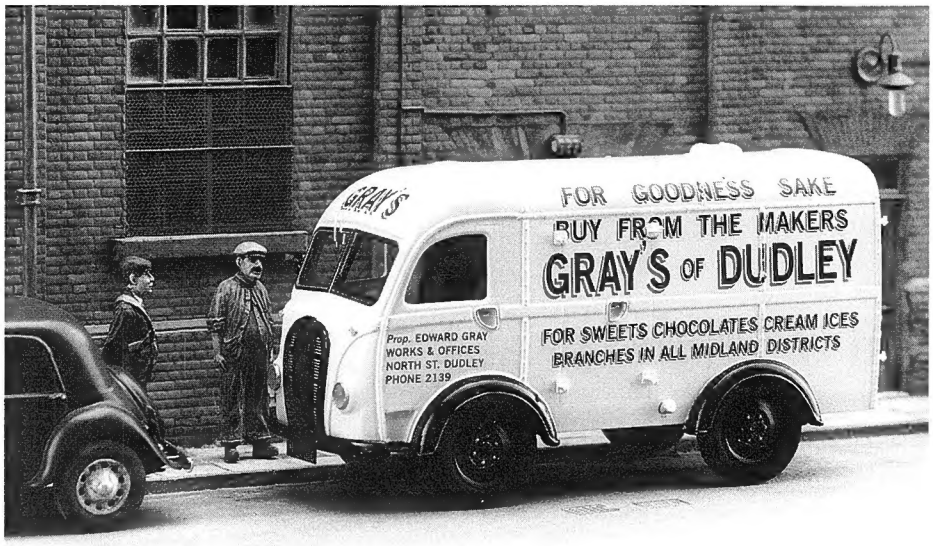
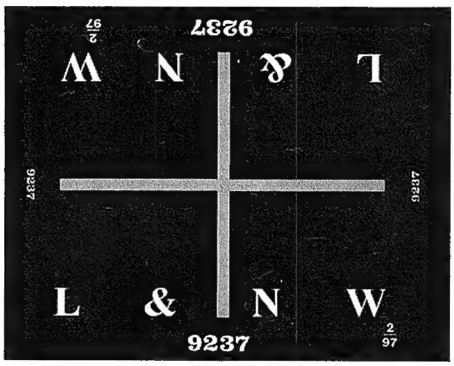
SMALL SUPPLIER FORUM



TRADE GRAPEVINE

An interesting new product from EXACTOSCALE are 4mm and 7mm printed wagon sheets. These are printed using a process which allows them to be dampened and sponged to fit particular wagons. They work too – we've tried them. The range is already huge, covering most of the pre-Group companies, the Big Four and BR, as well as some oddballs like the Southwold Railway. They are beautifully printed, in colour where necessary (the LNW sheet shown here has white lettering and a red cross) and in three formats: new, smoke-



stained and faded. What's more, individual sheet identification numbers can be provided on request, thanks to modern computer production techniques! In 4mm scale, there are two sheets per page, one sheet in 7mm – price per page is £1.20 (post £1.18 irrespective of quantity) and individual numbers will need 2-3 weeks delivery. An SAE brings the full range. Exactoscale has also linked up with Gerard Huet of France, whose lining inks were first announced in MRJ some time ago. These inks, which can be used with Rotring Rapidograph drawing pens, have now been extended to Exactoscale's specification and now cover a host of British lining colours. Cost per 15ml bottle is £4.40 and again, an SAE will bring full details and colours. Exactoscale is at 29 Couchmore Avenue, Esher, Surrey, KT10 9AS and the latest catalogue is available at £2.

Newly released by CLASSIC COMMERCIALS is this 7mm (1:43) scale model of the postwar Austin K8 'Three Way' van (*writes Gerry Beale*). Modelled with a cast resin body and with detail components from whitemetal and lost wax brass castings and etched stainless steel, the kit comes complete with full-colour transfers to enable the model to be finished in three different and striking liveries. Full illustrated instructions are included to allow the construction of this vehicle which is so characteristic of the postwar era.

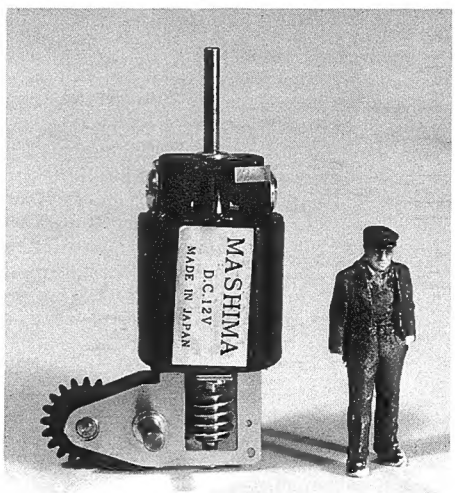
Indeed, if a model is able to make a political statement then this surely is it. Its appearance reflects the austerity conditions prevailing at the time of its introduction whilst there is something almost Orwellian about the model when finished in the School Meals Service livery – reminding us of the postwar welfare state into which so many of us started life and now thoroughly consigned to history.

This beautiful finescale model is available, price £37.50 (plus £2 post) from Classic Commercials at PO Box 800, West Wratting, Cambridge, CB1 5LU. Ready-built and finished versions (aimed mainly at the collectors' market) are available to order at £88. A fuller review will appear in due course.

Coming next from Classic Commercials are a small but choice range of 7mm figures (as shown in the photo), a further period commercial vehicle and a complete range of period petrol pumps and garage accessories. An SAE brings details.

TAYLOR PLASTIC MODELS of Unit 235, Stratford Workshops, Burford Road, London E15 2SP has issued an interesting injection-moulded plastic kit in 2mm scale for the modern iron ore tipplers coded JTA/JUA. Introduced in 1972 for British Steel's use, they have subsequently seen service as Procor-leased aggregate carriers for Foster Yeoman and ARC. The kit is complete with wheelsets, concealed weight and full instructions and is available in four colours – blue (BSC), light grey (BSC or Foster Yeoman), mustard and dark grey (both ARC). The kits cost £9 each or £87 for a pack of ten. Another nice touch from TPM is an etch to represent the cut-away buffer beams and fairings on Farish Class 47s, started in the mid

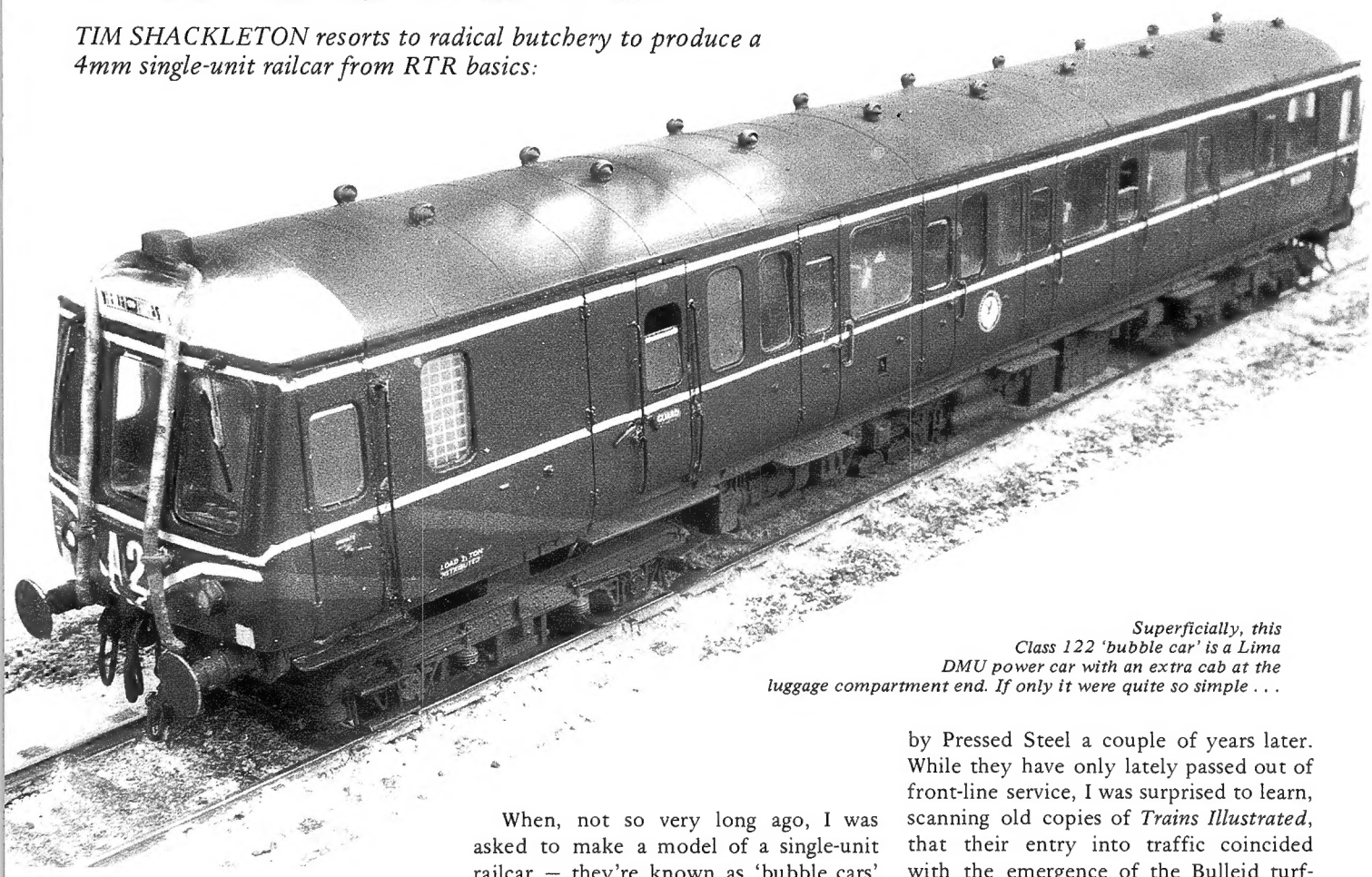
Continued on page 76



We first heard of the smartly-named 'Porter's Cap' gearboxes in a recent Tim Shackleton article – and here is the latest 'Concentro' reduction gearbox from PC. It offers 108:1 reduction in three stages, the clever part being that the driven axle is used twice – as a layshaft on which the first stage gear revolves loosely, and with the third stage final drive being an interference fit. Driving wheels as small as 9mm can be used, and it is ideal for such locos as the MRJ project Manning Wardle (says Pete McParlin, who, with Chris Gibbon of High Level Kits, is half of Porter's Cap). Details (with SAE) from 16 Reivers Gate, Longhorsley, Morpeth, Northumberland NE65 8LA – and while writing, ask about their superb new modelling chain, which is 40 links per inch! Incidentally, that's a 4mm scale figure next to the motor/gearbox . . .

THE BUBBLE

TIM SHACKLETON resorts to radical butchery to produce a 4mm single-unit railcar from RTR basics:



Superficially, this Class 122 'bubble car' is a Lima DMU power car with an extra cab at the luggage compartment end. If only it were quite so simple . . .

In the early 1980s, I often used to travel down from Paddington to see a client at Burnham, just outside Slough. Only the all-stations workings stopped there, which meant a non-gangwayed DMU all the way. Very often a single-unit Class 121 or 122 would be marshalled in with the rest of the stock and if I had a choice I would ride in it. I don't know why – they didn't seem any more or less comfortable than the usual Class 116 and 117 sets. I guess it was just the old spotter's instinct for the unusual. There'd often be another in the bay at Ealing Broadway – on the Greenford shuttle – and a couple of them revving up in a pall of blue smoke outside Southall shed. I have never been terribly familiar with the Great Western main line, other than at its London and Bristol ends, but the single-unit cars have always seemed a distinctive part of its iconography.

When, not so very long ago, I was asked to make a model of a single-unit railcar – they're known as 'bubble cars' apparently – I immediately recalled those journeys of fifteen years back: the slam of the doors, the revving of the engines and the choking clouds of fumes that came in through the drop windows, the slurred gear changes as we rumbled out of Paddington, the bouncing ride, the anticipation of the long day's work ahead in a studio, broken by lunch at some pleasant pub by the Thames or high up on the Berkshire Downs. I'm not, as a rule, very good at making models of things that I don't know, but I could recall those bashes down to Burnham as if they had taken place yesterday, and they gave me something I could relate to in building the railcar.

These single units were unique to the Western Region. There were two kinds, outwardly very similar, one lot built by Gloucester RC&W in 1958 and the other by Pressed Steel a couple of years later. While they have only lately passed out of front-line service, I was surprised to learn, scanning old copies of *Trains Illustrated*, that their entry into traffic coincided with the emergence of the Bulleid turf-burner, the Road-railer and the Metrovick Co-Bos, which says something for their longevity. The diesel cars replaced the AEC-built GWR diesel railcars and the 14XX-powered auto-trains on many branch-line and local services. Later, especially during peak hours, the single units could often be seen running in mixed rakes of multiple unit stock on outer suburban workings. In green-livery days I most readily associate them with the Thames Valley area, the Bristol district and the West Midlands, but in time they spread quite widely, some even getting as far as Scotland.

Numbered from W55000-19, the Gloucester railcars – TOPS Class 122, the kind I had been asked to model – married the mechanical specification of the contemporary Class 119 Gloucester three-car cross-country units with the

W55016 at Brixham on 8th August 1962. W. POTTER

driving cab and high-density suburban seating arrangements of the Derby-built Class 116 sets. They had a fair-sized luggage compartment at one end, an indication of the amount of non-passenger revenue that secondary lines and branches were still, in the late 1950s, deemed capable of generating. Like the autotrains, they could run with trailers when necessary. Nine matching trailer seconds (W56291-9) were built to complement them and these had a driving cab at one end only, which must have made for some interesting marshalling operations at times.

The simplest way of thinking of a Class 122 is that it is an ordinary Derby-built Class 116 driving motor brake second with a cab at each end and a different make of engine. The Pressed Steel-built Class 121s (W55020-35) are almost identical except that, like their three-car equivalent, they have a four-character headcode panel above the cab windows. This makes them, in effect, a twin-cab Pressed Steel Class 117 DMBS. They, too, had their non-powered, single-cab trailers, numbered from W56280-9. All these classes share a common body-shell with just the right number of detail differences to keep us on our toes.

Since Lima do a very nice 4mm version of a Class 117 DMU, it seemed I had the obvious starting pont for the model of a Class 122. I had three main options to play with. The first one that came to mind was to use the Craftsman Class 122 conversion kit, not so much for its rather plump castings as for the etched cab it provides for the luggage compartment end. A lot of my modelling involves integrating different materials into what, I hope, is a unified whole but I didn't think that one etched cab and one plastic-moulded one would go together terribly well. For the same reason, I discounted using Chris Leigh's whitemetal ends from his Class 122 conversion kit.

Turning a DMBS into a single-unit car isn't just concerned with the cab, however. To make an accurate model, some adjustment needs to be made to the spacing of Lima's windows and doors at the outer ends. This calls for a fair bit of cut-and-paste work — nothing like as much as with Monty Wells's epic GWR twin-set conversion (for me, one of the highlights of the early MRJs) — but a challenge nevertheless. I'm not sure I altogether enjoy this kind of low-tech model-bashing, though I do enough of it just the same. The second major option, therefore, might have been to have used the etched sides and whitemetal ends from the Four Track Models Class 122 body kit, which is designed to fit over the Lima powered chassis. I would guess that it's long out of production by now but almost any kit ever marketed can be tracked down with a little diligence. Being designed by Rod Neep, I'd expect it to be very good but so, too, is the 'middle bit' of the Lima power car. This might reveal a little dimensional drift when compared with the drawings in Brian Golding's *Pictorial Record of British Railways Diesel Multiple Units*, but general good looks and overall quality more than tipped the balance in favour of the bodywork of the RTR model. Plastic moulding has allowed Lima to incorporate some very fine detail such as the door hinges and the continuous riveted strip at cantrail level which could not be matched — by me at any rate — using conventional etched-kit techniques.

The route I finally took was, in essence, to saw off the cab from a spare Lima unpowered trailer car which I had picked up cheaply, to remove the corridor end of a power car and to stick the two together. Unfortunately, the Lima moulding has some prominent characteristics which meant I could not just leave it at that. The first is the most obvious. Unaccountably, the large window nearest to the (original) driving cab end is much bigger, lengthways, than any of the others — they should all have the same dimensions and there seems to be no prototypical and/or technical justification for such meddling. The

A Class 122 and trailer car warming up in the familiar surroundings of Southall shed c.1960. This picture was my guide for the condition in which I finished my model. I never 'make up' the weathering – I copy photographs as closely as possible. C. R. L. COLES

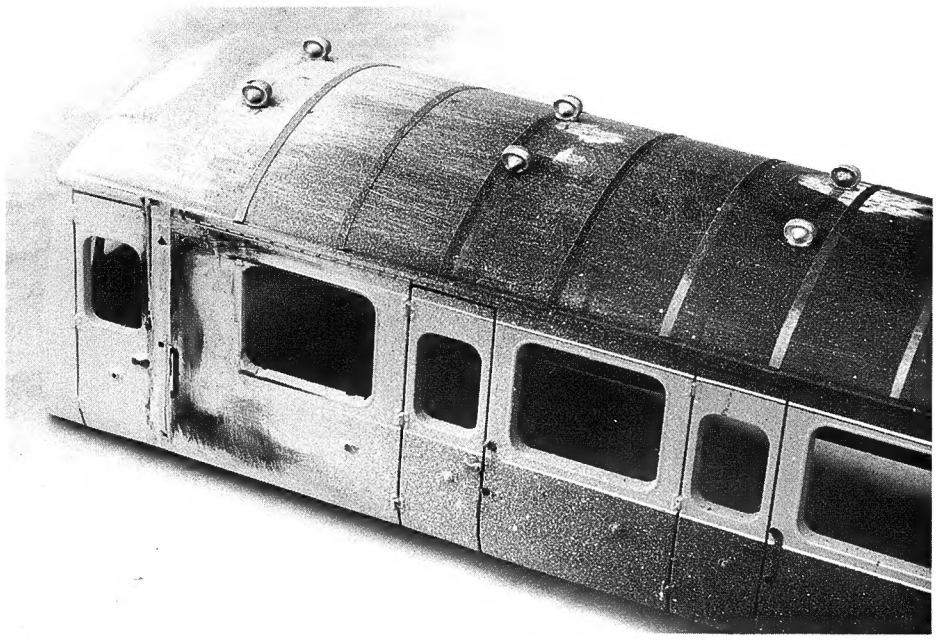
leading edge of this window, as moulded, is only 5mm back from the cab door, when it should be a scale 2ft 6in.

On my model, the 3mm discrepancy in window size was made good by filling in the excess with strips of Microstrip, faired in with Milliput. I reinstated the window beading in 5-amp fuse wire. Even then, the gap between the leading edge of the window and the cab was still a scale six inches out – but more of this in a moment.

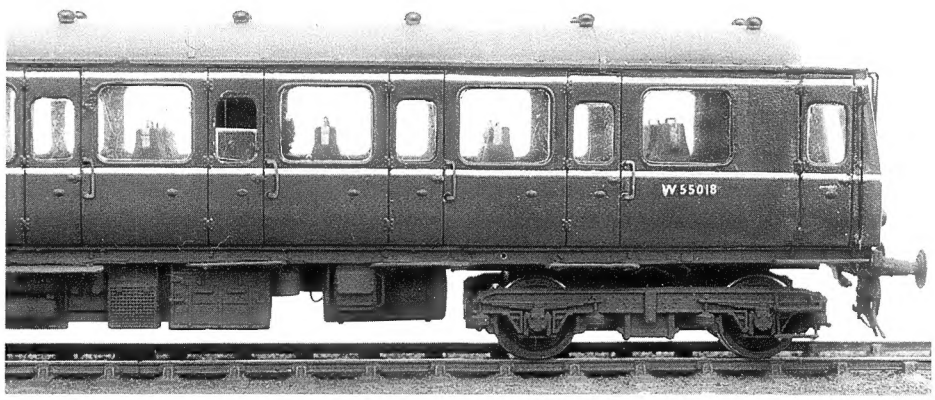
The second difficulty lay at the opposite (guard's compartment) end. Checking the measurements of the model against the drawing in *BR DMUs* suggested that the rearmost small window would, when united with the second cab, be much too far back. However, when I studied prototype photographs, the window didn't look to be quite so far forward as the drawing suggested it should be. Could it be that, in this area at least, the drawing is less than entirely accurate? At any rate, the window would clearly be in the wrong place on the model if nothing was done to remedy the situation.

The third complication was shaping up nicely. Even with the extra cab in place and after the modifications had been made to the windows, the Lima body would still be 2mm too long at the brake compartment end and 2mm too short at the other. Others might be prepared to leave it at that – perhaps resiting the offending window in the guard's compartment – but, even though it would be making a lot of work for myself, I wanted this model to be as accurate as I could reasonably make it.

The way I figured out I could most satisfactorily resolve these contradictions was, in the event, not too painful. On the existing power-car body, I opted to saw the cab and roof off flush at the rearmost door hinges and to cut the corridor end short, exactly 6mm forward of the rearmost (and now wrongly sited) window. Then I reinstated the cab, but at the opposite (guard's compartment) end, which section of the bodywork was now at the correct length. This, in effect, brought the luggage-compartment window forward so that it matched the dimensions derived from photographs, if not the drawing in *BR DMUs*. Next, by taking the 'donor' trailer-car body and sawing off the cab and roof section along with the adjoining 2mm of bodywork, I could strip in a new, longer cab section and get the extra length that was needed at the forward end. Obviously, a lot of filling and filing and generally making good was necessary, but I think it was worth it, if only for my peace of mind.



It all looks a frightful mess but things are, in fact, going quite well – at least as far as integrating the cab front with the body sides goes. We are on the third or fourth fill-and-rub-down here. The revised roof detail is already in place and the oversized window has been seen to.



The transverse roof ribs on the Lima moulding had been more or less in the right position as supplied, but now, with all the general shuffling around that had been going on, they were way out of their true position, as were the neatly moulded footsteps on the underframe and the body mounting pillars. In consequence, the roof detail had to be removed – I wanted to lose Lima's half-hearted torpedo vents anyway – and remade from scratch. I used MJT torpedo vents – although I have seen these units with both the shell and ridged types – while the transverse roof ribs were made from parcel tape cut very thin (approximately 0.5mm).

With my bench now littered with slices of DMU body, and the body a mess of cuts and fills, I began to wonder if the etched kit might not have been a better bet, especially since the conversion work had hardly begun. How much one retains or removes of the existing detailing is, obviously, very much down to personal taste. I chose to remove the moulded-on passenger grab handles and replace them with components from the very useful PC BR Mark I coach detail etch (which is still just about available) and likewise, though it was a bit of an elbow to do neatly, I cut off the four handrails that are found at each end of a Pressed Steel DMU, presumably to aid access to the roof-mounted headcode panel, but are

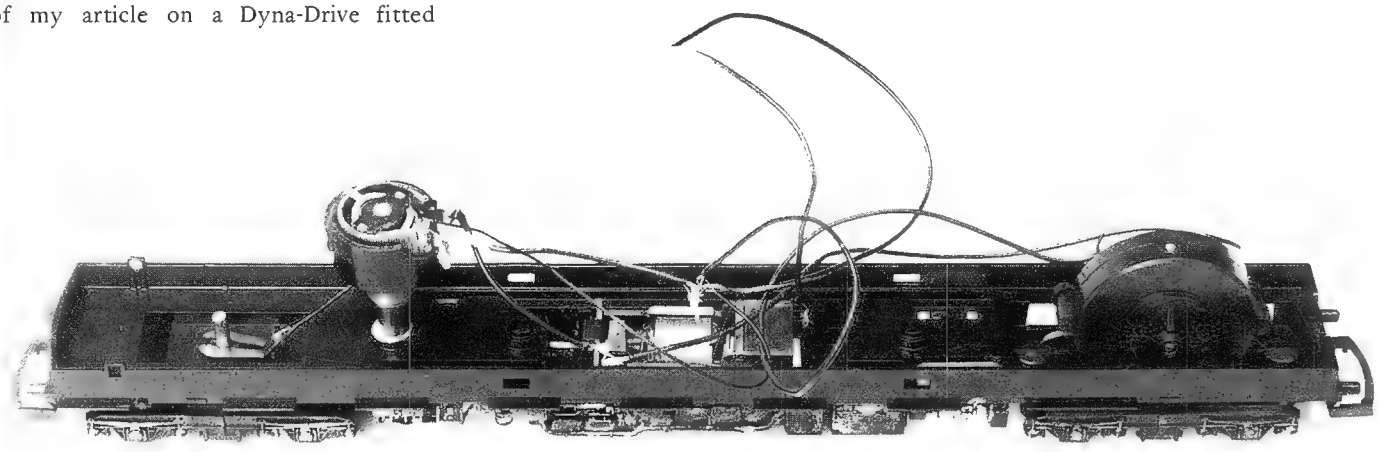
missing from the Gloucester cars. On the other hand, though I had quite a selection of brass coach-door handles available, I didn't think any of them caught the shape of the prototype quite as well as the moulded ones on the existing body. The distance by which real DMU handles stand proud of the body scales down to under 0.5mm and I felt I could live with the fact that the Lima ones were moulded in half-relief. Likewise the door stops – or whatever their name is – are approximately 3in too low on the bodysides but are so nicely moulded that I passed up the opportunity to replace them with thirty-odd tiny Grandt Line mouldings, drilled and inserted exactly in alignment along the bodysides. While I'm coming clean on these minor fudges, I should mention that the driver's door grab handles were copied from later pictures and drawings of the 122s. These were soldered-up on-site on the plastic bodywork, with three joints in each – which is not good for the nerves – and it was only when I finished what was probably the most difficult job on the whole model that I realised that, in the green-livery era, these handles had been longer still, looped round under the cantrails and dropping down to solebar level. I assume they were cut off short for safety reasons – handrails on other diesel classes, particularly the 08s and 56s, also get chopped about over the years. Not fancying desoldering all the work and starting again, I opted to leave things as they were.

Having got the bodywork well advanced, I thought I might have a little think about the drive system. In the wake of my article on a Dyna-Drive fitted Class 37 in MRJ No. 84, D. A. Williams of Beckenham wrote in praise of the infinitely cheaper 'free motor' principle. This, as I recall, had its origins in an article by Bob Symes in the January 1961 *Model Railway News* in which was outlined a system in which a 'free' motor, not connected to the drive system, is introduced in series with the traction motor and with a resistance of approximately 2.5-5 ohms. To quote Bob (whom I once saw standing at a bus stop near Birmingham, so I can claim some connection): *'On moving the controller to the first notch . . . the available current will find its way into the free motor, as the way through the traction motor is blocked by the resistance. The free motor will now start to move. As soon as the motor starts running it generates an electrical force opposed to the one applied to it . . . When this back EMF equals that of the series resistance in the circuit of the traction motor, current becomes available to turn the traction motor over slowly. With progressive notching up, the free motor will absorb the steps and as soon as an electrical balance with the traction motor is reached the latter will slowly speed up . . . until the controller is fully open.'*

It sounds, on paper, like a poor man's Dyna-Drive, using simple electronics instead of a clutch-and-flywheel system. I used to read *MRN* at the time but, not having yet sat my eleven-plus, it would have gone in one ear and out of the other (as most of it does now, to be honest). I re-read it a few years back and, as it happens, I have been mucking about with free motors, on and off, ever since – without ever really getting anywhere. But as a result of Mr. Williams' interest – endorsed by MRJ's Paul Karau in his best 'in your own time, no pressure' manner – I thought I must just give the idea another whirl with the bubble car, especially in regard to slow running.

I don't know why Lima's two-axle motor bogie should, as a rule, perform a lot better than their three-axle equivalent. Both are based on a face-commutator motor and the one fitted to the Class 117 power car, on which I based the conversion, worked pretty well once it had been given a few hours running-in. Its behaviour at very slow speeds – especially when starting and stopping – was obviously not on a par with the custom-built drive train in the Dyna-Drive 37 or, for that matter, in my more recent Class 58 which has a big Mashima and 83:1 three-stage gearing providing the grunt. Slow-speed running was what I particularly wanted to improve and I wondered if the free motor principle might help.

I have a box full of assorted motors lying around doing nothing very creative and I tried various ones to see what would happen when I linked one in series with the motor bogie – in most cases, very little. The most promising results came with an X04. Wired up to the Lima face-comm motor on the bench, the X04 started spinning long before the motor bogie, which was at it should be. This was the only open-frame motor that I could get to do this. Some cheap motors stripped out of 12v toys didn't want to



The free-motor experiment was, at best, inconclusive – a charitable way of saying it was a waste of time. The contraption on the left is a variable resistor of great antiquity. I haven't a clue where I would have put it if the thing had worked. The free motor, though, sits rather snugly – if uselessly – in the floor well. This lot could probably have been fitted on to a chip the size of an ant's eye and it would unquestionably have performed a lot better.

know, whilst at the other end of the evolutionary spectrum, a sample D11, being a much more sensitive design, did not start until the Lima motor was whirring along merrily, which was obviously of no use to me.

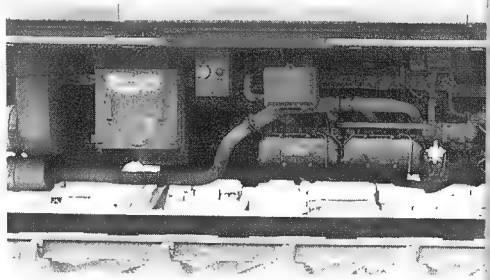
So the X04 it was. I mounted it on the Lima chassis, still with its OO wheels, and test ran the assembly, using an ancient H&M rheostat controller. As I applied current, the X04 began to turn. Without touching the control knob, the revs gradually built up until the Lima motor bogie kicked in. Due to the increasing amount of back EMF being generated, the unit then moved off, faltering a little at first but gradually gathering speed in quite an impressive manner. By shutting down the controller, the chassis came to a stop but the X04 continued to idle. I have to say that it didn't sound much like a diesel to me – it sounded like an X04.

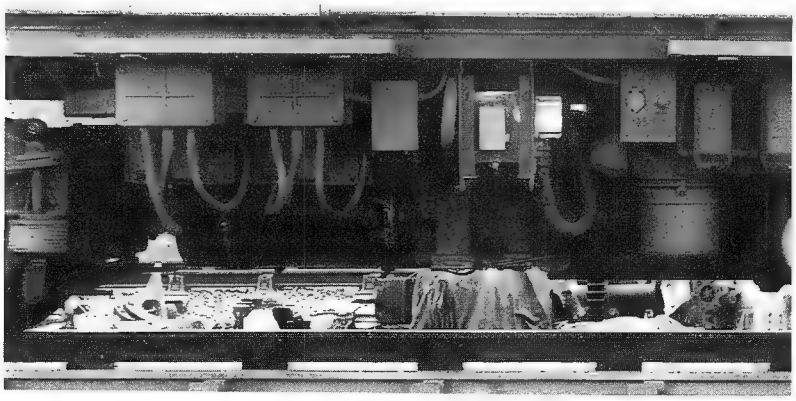
Nevertheless, I thought this looked very promising – almost exciting. I recalled how my old Dublo three-rail stuff used to run with my Dyke & Ward controller, and this would, by comparison, have been very impressive indeed. Starting and stopping was a bit hesitant by can-motor standards but the gradual acceleration was impressive and far from unlike the effect of Dyna-Drive – but without the all-important illusion of mass and momentum given by the clutch and, especially, by the huge flywheels. I was sure the system could be refined to give better results. Thinking that the controller might be having a disproportionate effect, I disconnected the H&M and changed to an EDM. It was immediately obvious that this was a retrograde step – the X04 would be barely flickering before the motor bogie began to move. The motor noise became very harsh and rasping, the progress faltering. I could almost hear the controller having a fit, trying to figure out what on earth was going on. Most significantly, there was no sign at all of the progressive acceleration, and the running, if anything, was a good deal sweeter with the X04 disconnected – a sign that the Lima bogie was starting to get well run-in.

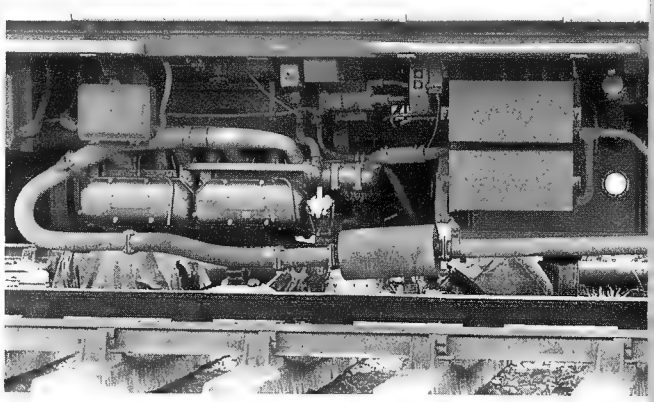
I introduced a variable resistance into the circuit – about 5 ohms seemed the optimum figure. This modification had virtually no effect when using the H&M controller – which is itself, of course, a variable resistance – but running on the ECM was definitely better, though the electronics were still more than a little baffled by what was going on. The noise, though, was really ugly – worse than the throaty growl of my dear old *Duchess of Montrose* and almost as bad as a Romford 'Bulldog' – and absolutely nothing like a diesel. I couldn't get much of an idling speed either before the Lima motor cut in, despite adjusting the resistance. Once again – in terms of noise levels and controllability – the optimum results in a fair trial came from the Lima bogie on its own with an ECM feedback controller.

Maybe the prize, had I known it, was even then almost within my grasp. Maybe there was some magic component that I could have built in that would have made all the difference. I know as much about electrical circuitry as Henry Greenly did about modelling in Plastikard, so it would be nice if some reader better qualified to look into these things than I am might wave a circuit diagram in MRJ's direction. As things were, though, I gave up when it became obvious I was getting nowhere. My conclusion is that there probably is something in the free-motor principle but I doubt if it bears any relation to modern motors and control systems. Thirty-five years ago, when the X04 was in its infancy and a Powermaster or even – dream on, buddy – a Rolla-Controlla seemed the ultimate system, the kind of results that Bob Symes reported in *Model Railway News* would have seemed sensational. It obviously has something to offer if you still use simple rheostat controllers and the older type of open-frame motor – which not many MRJ readers do, I would imagine. My reaction to the performance of my test chassis was, in the end, very much one of 'so what?' If I could have a tenner for every hour I spent thinking and tinkering, I could have bought a pukka Dyna-Drive system – and I'd have been a lot happier with the results. As it was, I stripped out the X04 and the various gubbins and carried on with the rest of the conversion. This, mercifully, was something I could relate to.

In cosmetic terms, the underframe needed very little work. The Class 122 units, like many DMU classes, were built with prominent outside swing-links on the bogies. These were removed from the early 1960s onwards as part of modifications undertaken to improve the poor riding quality of DMU bogies; the Lima mouldings follow this later pattern. Before fitting Ultrascale P4 wheels, the ride height was dropped a scale six inches

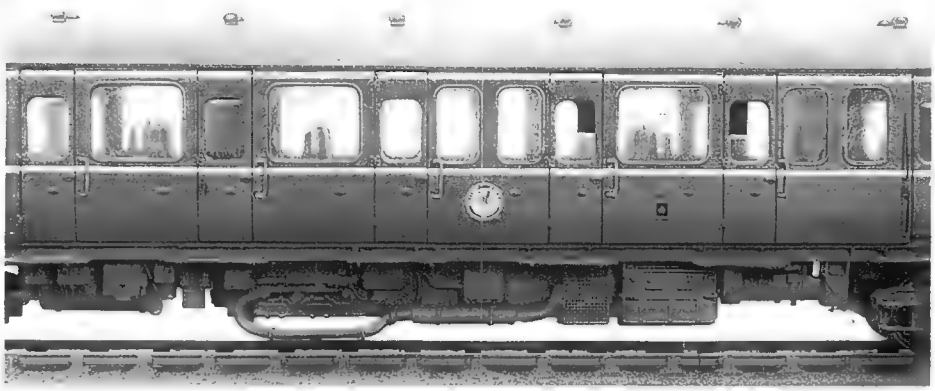




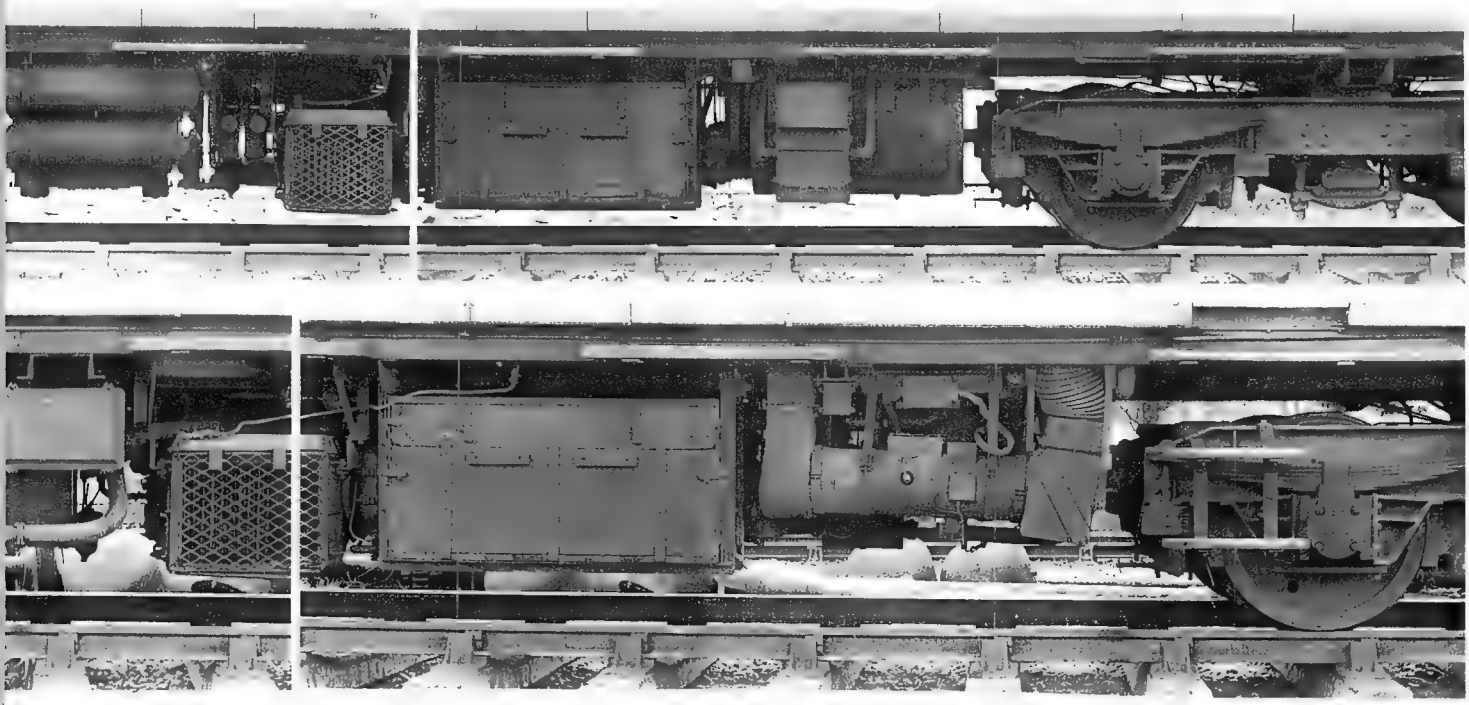


in the manner outlined in my article in MRJ No. 86 on the Class 128 parcels car from Gloucester RC&W (and not Birmingham RC&W as I so carelessly captioned it in one of the pictures). Bogie and solebar steps were from brass strip, soldered to wire prongs and set into holes in the mouldings. Lima's depiction of the underfloor-mounted engines is quite superb and every bit as good as the detail on an expensive continental model. As modelled, the engines look absolutely fine in every detail for the twin AEC version of the BUT 6-cylinder 150hp horizontal diesels of the prototype, although the 117s – on which the model is based – had the Leyland equivalent. Were they outwardly pretty much the same? Knowing about as much about DMU engines as I do about what goes on under the bonnet of my car, I suspect they were. I can tell the difference between these types and a Rolls Royce or Leyland Albion power plant although I do register variations in what is notionally the same power unit between and sometimes even within classes.

I thinned out some of the solid moulded areas of the engine detail to give more of an impression of depth, added a modest amount of extra detail and made a new exhaust pipe out of two thicknesses of brass capillary tube, the Lima representation being a bit under-



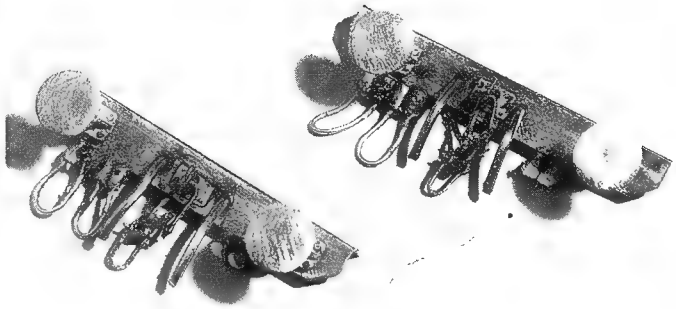
Below: *Close-ups of both sides of the engines on the real thing. Details change over the years just as they do with steam locomotives. The engines in particular seem to undergo heavy modification and replacement exhaust pipes come in all shapes and sizes. Lima's interpretation of this little lot (*above*) is, I have to say, exquisite – this is as good as RTR gets.*



scale and not in the right place anyway. I cut off the buffer beams entirely and replaced them with completely new fabrications of 5mm brass angle to which I soldered the usual array of pipework and jumper cables, made from wire of various gauges. My experience with front-end detail that is merely glued into holes drilled into the plastic buffer beams of RTR models is that it very quickly gets knocked or snapped off. I prefer the infinitely greater security of all-soldered assembly.

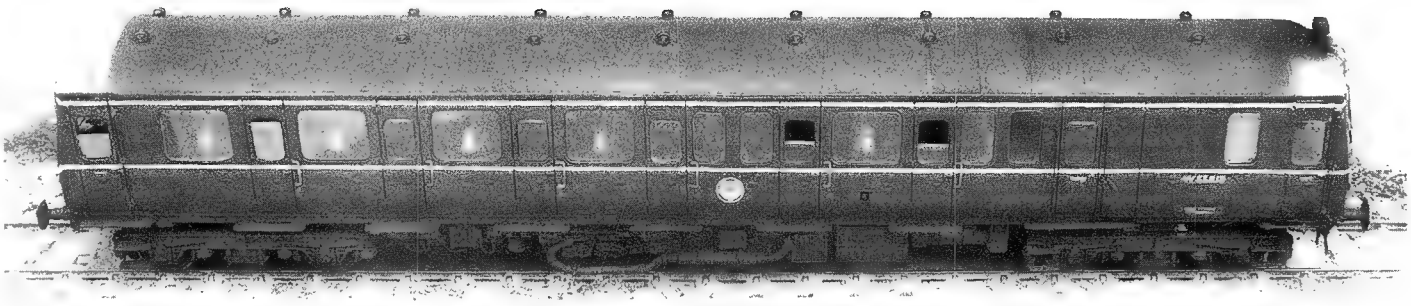
If there are broad similarities between the engines fitted to DMUs, the same can certainly not be said of buffers and I wouldn't be many miles off the mark if I say that almost every class had its own pattern of buffer shank and/or head. Some of these are an absolute swine to make – scale DMU buffers being even less readily available from the trade than high quality kits for diesel classes – but those of the Class 122, and for that matter of the Class 116 three-car equivalent, are pretty close to ABS's heavy-duty BR wagon buffer (ref 103). The Pressed Steel units, naturally enough, had something very different; I have photographs of these units fitted variously with round, oval and the distinctive round-but-with-the-tops-and-bottoms-machined-off patterns.

The interior was basically that supplied by Lima with its 'missing' seats – deleted to create space for the wiring arrangements – reinstated from a spare set left over from the parcels car conversion. I used a simple spraying mask made from fine mesh to get the effect of the patterned upholstery, described to me as being originally a 'pinky-gingery' kind of brown – I only knew these units after they had been refurbished so I had to use my imagination. After spraying on my interpretation of this colour, I lightly pounced ground-up chalk in complementary tones over the seats to bring a little variety to the texture and then added seat-back handrails out of steel wire, with a painted representation of the seat frames. The interior of a DMU is highly visible – one of their original selling points with the travelling public was the excellent view they afforded of the passing scene – and it is well worth making an effort here. I didn't fit any figures inside the car, firstly because I was requested not to, and secondly because, apart from the two superb sets available from Dapol (née Airfix), I think the



Prefabricated buffer beam assemblies – the buffers themselves are from ABS, the couplings are PC and the rest of the detail is improvised from various gauges of wire. I prefer all-soldered buffer beams, even on adapted RTR models. Building up the layers of detail is a lot easier than if you are fiddling about with glues and solvents.

On the prototype there is a vast amount of detail around the buffer beams. How much of this is translated into 4mm language is very much open to the individual builder. DMU pictures of this era don't seem over plentiful so this part front end has been taken from the corner of a larger picture, with apologies to the photographer. L. F. JONES



moulded ones supplied by the trade are so universally bad that they destroy any good work elsewhere. I keep meaning to have a bash at scratch-building figures – it can't be that difficult, surely, compared with soldering up the ejector pipework on a 9F.

The 122s were one of a number of DMU classes that were finished, originally at least, in a shade of green that is a good deal closer to malachite than the more familiar Brunswick colour. I used Railmatch 'early DMU green' (ref 307) which compares well with photographs and recollection (though colour memory is one of the least reliable faculties of the human brain). A stylistic quirk of most, but not all, Western Region diesel units – and of some Swindon-built sets destined for other regions, such as the very sexy 'Trans-Pennines' – was that the upper and lower cream bands were both 2in wide. There was plainly no one common policy but the norm for most BR DMU sets was a 2in line at waist level with a 1in line below the cantrail; another permutation – most familiar, perhaps, on the Met-Camm DMUs – was to have two 1in lines. Variations can, in some cases, be found within a single class at the same period and, as always, prototype photographs should be studied to avoid embarrassing gaffes. The lining was done with a Bob Moore pen – two passes with the 'normal' head – and the speed whiskers (which, again, varied between and even within classes) and other graphics were from the excellent Woodhead transfer sheets.

True flush glazing is essential if our diesels are not to appear – as Bob Barlow so waggishly put it when we were discussing these things – as though the bodywork is made of concrete. Commercial vacuum-formed flush glazing is available for the Lima DMU but it looks like nothing on earth and, as usual, I did the job the long way round – each window (there are 44 in all on this model, in four different sizes) is cut from clear styrene and shaped to be a tight push-fit into the aperture. Some advocate that the openings be painted matt black but I see little benefit in this – the way I do it seems to give the impression of a thin metal body shell well enough. The styrene I use is quite a stiff grade of 20-thou thickness, and I cut each batch of windows in a strip, a few thou oversize, and then snap them off individually. They can then be filed to fit and the corners radiused. A dribble of varnish around the edges helps keep them in place. One or two windows are left open, to breathe a little life into the model. Good tools tend to suggest applications, and two further uses I had for the lining pen – this time with the fine head – were to draw up some mesh on clear Mylar film for the luggage compartment windows and to draw in the aluminium fingerplates at the top of the drop

An unidentified Class 122 at Hatton c.1960. J. H. MOSS

windows. Glazing the model occupied most of a warm afternoon in the garden, for part of which I was nominally supervising my daugher Holly's attempts to learn to ride a bike. Modelling – like writing – puts me in a trance-like state similar to that induced by yogic meditation or the more interesting recreational drugs and by the time I'd finished the glazing and had glanced round to see what she was up to, she was hurtling round at an incredible speed and had completely flattened one of the flower beds.

This particular bubble car was expected to look reasonably spruce, so I weathered the roof and underframe but left the bodysides – which had been given a thin coat of gloss varnish – pretty well untouched, apart from a little accumulated dirt around the door handles and hinges. As usual, I left the very fragile details as late as possible. The windscreen wipers were soldered up from steel wire and plugged into holes above each window. One of the last things to go on was also one of the most distinctive features of these cars – the exhaust pipes at the guard's compartment end. These were shaped, fairly obviously, from a single length of brass rod and the silencer box was filed up from solid. This is how the exhausts looked when the cars were first built, but in later years they were modified and sawn off just above cantrail level to leave a curious antler-like arrangement. A little waft of blackening around the cab roof and a hint of corrosion on the pipes themselves helped suggest a working unit. And that, really, more or less brought the job to an end. Because the conversion was a matter of making little incremental modifications rather than sweeping changes, it was only when I compared the end result with an unmodified Lima power car that I realised how far things had come. I started counting the number of alterations I had made to the RTR model, got up to 150 without much effort, and then the phone rang and I forgot about it.

The best destination blinds you can get are from Formil/MPS (the Dyna-Drive people). Their list includes several from the Thames Valley area that are appropriate for these units. My model, quite deliberately, has an incorrect headcode at one end. This, by a familiar paradox, is actually true to prototype.

While all this was going on, another kind of bash was taking place – father-in-law's 80th birthday party and the attendant family gathering. 'So what are you building at the moment?' asked brother-in-law Pat, one of many City gents with a passion for railways. I gave him a quick run-down on the work-in-progress that was squirreled away in old shoe boxes and ice-cream cartons around my workbench – a brace of industrials, a J50 and, of course, the bubble car. Being primarily interested in diesels, I thought he'd be impressed.

He opened his cigar case and flashed the duty-free King Edwards. A cloud of blue smoke drifted across the room, so intense that we could have been back at Paddington in the rush hour, all those years ago.

'My mate Merv's just bought a real one', he said nonchalantly.

Misc.

RAILWAYS AND WAR

Milton Keynes MRS has moved into a famous former wartime intelligence centre at Bletchley Park, once the most secret establishment in Britain and home to the world's finest code-breakers. The Milton Keynes club not only has a good large building in the centre – now run by the Bletchley Park Trust, which is transforming the place into a museum complex – but is taking an active part in the museum side of things. Club Chairman Dennis Lovett says a permanent exhibition of layouts dedicated to the contribution made to the war effort by railways and their staff is planned for the building. 'The contribution made by the railway industry during both world wars has never been properly recognised and we have a wonderful opportunity to put the record straight' he said. Anyone interested in helping with this very worthy ambition is invited to contact Dennis on 01908 376750 or Chris Hughes on 01908 605417 for more information.

STAINES TIME AGAIN

The only problem with the Staines Finescale Exhibition is that it isn't an annual event. The effort in staging the event is such that it can only happen every other year – and fortunately, this year's one of 'em. As before, it's at Staines Methodist Church for just one day – May 3rd – and is packed with the sort of goodies that only Philip Hall can cajole into place. Layouts include several MRJ-featured exhibits: Trevor Nunn's superb 'East Lynn', 'Alnhill' by Paul Hodgson and 'Ashburton' from Chris Lamacraft, plus Angela Halliday's 'Hayling Island' which appears in this issue. And the list of demonstrators includes Gordon and Maggie Gravett, Carl Legg, the entire Dunwich team and Barry Norman. Trust us, the Staines show is worth seeing. Details in Diary in due course.

WHAT THE HELL IS IT?

Those of us who enjoy track building have probably had to abandon at least one dodgy crossing vee in our time, but Bob Haskins tells us that the worthy burghers of Clevedon, Somerset, have found a use for a full-size reject. On the site of the town's former station, now a shopping mall – what else? – they have sunk two knuckle rails vertically into the paving, with the crossing vee forming, well, a giant vee above the heads of pedestrians. Says Bob: 'It's all tastefully painted in red oxide, but unfortunately, there is no plaque or mention of what the structure actually is. Many locals use it as a dog or bicycle chaining post . . . '

A TRUE STALWART

Congratulations to Peter Rogers, the 3mm Society's treasurer, who completes 25 years of continuous service at the society's annual meeting in Stockport in May – a remarkable record which may well be without parallel in the hobby. Not surprisingly, he has been nominated for a further year. Peter's careful stewardship of the society's finances has enabled it to develop a huge range of kits and components available exclusively to members.

YOU COULDN'T MAKE IT UP

"If your hobby is hitting little balls into holes you can't see, or sitting by the river in the rain catching fish, that is socially acceptable. But if you stand at Crewe station watching trains, you're branded a headcase" – so said Murray Brown of *Rail Express*, boldly making a stand for transport enthusiasts in a recent article in *The Times* (picked up by one of MRJ's keenest monitors of media nonsense, Ivan Tan). It seems that the National Railway Museum has invested £20,000 of cash that might be better spent on looking after our railway heritage to commission "designs for a modern outfit to replace the classic trainspotters' anorak." The result, shown in *The Times*, looks like the sort of sartorial excess you might find at an all-night rave or an Oasis gig. As Ivan says, you really couldn't make this stuff up. What we really need, surely, is more of the pointed juxtapositioning of pastimes like golf, snooker, fishing, fungi-collecting, test-card watching and metal detecting – all fundamentally ludicrous, however enjoyable they may be – with our basically noble interests.

SOCIETY NOTES

Stafford Railway Circle seeks new members to participate in finescale 4mm and 7mm projects. It is a friendly club, with a social programme, extensive library, clubrooms and competitive membership rates which meets on Tuesday and Friday evenings. Call either Andy (01785) 663949 or Terry (01785) 816666.

Nigel Cliffe has been appointed treasurer of the 2mm Scale Association and the new magazine editor is Ian McAulay. The Association is the club and ultimate source of supplies for anyone interested in finescale 2mm. Membership secretary: John Speak, 104 Halifax Road, Brierfield, Lancashire, BB9 5BQ.

Middlesbrough Model Railway Club is seeking new members. The club meets Monday, Wednesday and Friday, 7.00 p.m. – 9.30 p.m. at Newport Settlement Youth & Community Centre, Union Street, Middlesbrough, Teeside. Several new layouts are under way and the club has a good range of modelling equipment and an extensive library. Contact Alan Jones, secretary, at 14 Palmer Walk, Eaglescliffe, TS16 9JW.

After 15 years as chairman of the Bedford & District MRS, John Payne has become a secretary for a third spell. Tony Winterson replaces him as chairman. The club has vacancies for members – contact John Payne at 18 Amberley Gardens, Bedford, MK40 3BT (Tel. 01234 309814).

Risborough & District Model Railway Club has a new clubroom in Risborough Community Centre, Wades Park, Stratton Road, Princes Risborough, Bucks (next to the swimming pool). The club meets every Friday evening from 7 p.m. and is looking for new members, especially juniors aged 12-18. Current projects include the existing OO layout 'Newmills', plus new projects in N, OO, P4 and a 4mm Met/LT project. Contact Francis Gomme on 01844 274865.

The Midland Railway Society is now open to new members. The membership secretary is Barrie Fitch, 'Mimosa', 4 Canal Terrace, Yapton, W. Sussex, BN18 0HA,

RELATED, BY ANY CHANCE?

GORDON GRAVETT

STORMTROOPER

We wonder if any of our readers have noticed the remarkable resemblance between master modeller Gordon Gravett – as pictured wearing a spray-painting respirator mask in his new book 7mm Modelling Part 1 *– and the menacing Imperial Stormtrooper from Star Wars. Are they by any chance related? Is Gordon actually an alien?*

DENYS BROWNLEE 1921–1966

It is a great sorrow to announce the death of Denys Brownlee at the end of December, after a short illness (*writes Tim Watson*). I had known Denys since the early 'eighties and came to know him and work closely with him during the early construction phases of Copenhagen Fields. Latterly, Denys was instrumental in the development of new, quality-tested products for the 2mm Scale Association. He was also one of the 'B's of the etched B&B coupling.

Many readers may know that Denys was one of the founding members of the 2mm Association, but also one who was incredibly active to the very end. He was always innovative and capable of pushing the limits of 2mm scale modelling beyond what most people thought possible. How many people would have persevered and made their own 6mm diameter coreless motors? Denys was a past-master at playing his cards close to his chest and then springing a surprise on us. It almost became an annual event to guess what he would be producing for the Association's Groves competition, which he had won more times than any other person.

His advice was always freely and kindly given, whilst his pragmatic approach to engineering problems inevitably produced workmanlike solutions. The models he has produced are a testament to his skills and his memory – his beautiful Burnham-on-Sea layout, his wonderful locomotives and not least the largest 2mm scale model he ever made; the ever-reliable tram mechanism on Copenhagen Fields.

The greatest assets of model railway societies are their members. The 2mm Scale Association has suffered a great loss and I have lost a good friend and mentor. The Association will never forget the contribution Denys made to it. Our sincere sympathies are extended to Jean and his family.

from whom a sample publication and details of membership can be obtained. Current subscription is £10.00.

Geoff Peacock, exhibition secretary of **Skipton & District Railway Society**, is now also general secretary. His address is Daleside, Skirethorns Lane, Threshfield, Skipton, North Yorkshire, BD23 5PH. (Fax/phone 01756 752064).

Dennis G. Ogle of Stone Rigg, East Farm, Humshaugh, Hexham, Northumberland, NE46 4DF (telephone 01434 681193) is the new secretary of **Newcastle & District Model Railway Society**. The club continues to meet on Mondays and Thursdays from 7.30 to 10.0 p.m. at its Westmorland Road clubrooms, Newcastle-upon-Tyne, and all are welcome.

Todmorden Model Railway Society has moved into much better new premises at 4/6 Hall Street, Todmorden, Lancs. The club is currently working in OO, N and O scale and new members are welcome. Details from Trevor Boycott (secretary), 36 Lennox Road, Portsmouth, Todmorden, Lancs. OL14 8QD.

Manchester Model Railway Soc. has a new secretary: Russell Hatt, 39 Grasmere Road, Frodsham, Nr. Warrington, Cheshire, WA6 7LJ,

Hemel Hempstead Model Railway Society has a new secretary: R. J. Lewis, 41 Oakdene Road, Hemel Hempstead, Herts. HP3 9TS.

Newcastle & District MRS has a new secretary – Rob Day of 27 The Poplars, De Grey Street, Cruddas Park, Newcastle-upon-Tyne, NE4 7HA. The club meets every Monday and Thursday evening (7.30 to 10.00) and welcomes new members at its clubrooms, 18 Westmoreland Road, Central Newcastle, to work on current projects in P4, OO, HO, N, O and O n.g.

Northampton & District MRC's secretary is now T. D. Dickenson, 26 Grange Avenue, New Duston, Northampton, NN5 6SR. The club meets each Wednesday at Thornton Hall (Kingsthorpe Community Centre) from 7.30 – details from Mark Haynes, Northampton 33205. The new secretary of **Bridlington Model Railway Society** is David Harrison, 31 Wheatley Drive, Bridlington, East Yorks, YO16 5TT. All future correspondence and enquiries should be addressed to him.

The new contact address for the **2mm Scale Association** is 8 Kent House Lane, Beckenham, Kent BR3 1LF.

Alan Garner, chairman of the **Broad Gauge Society**, has moved to 18 Pilgrims Way, Canterbury, Kent, CT1 1XU.

Portsmouth & South Hants Railway Circle's new secretary is Raymond Hodson, 2 Mallard Gardens, Peel Common, Gosport, Hants, PO13 0RD (0329 236099). Members are working on new P4 and EM layouts as well as existing exhibition layouts. Meetings are held at Great Salterns House, Eastern Road, Portsmouth each Thursday from 8.00 p.m.

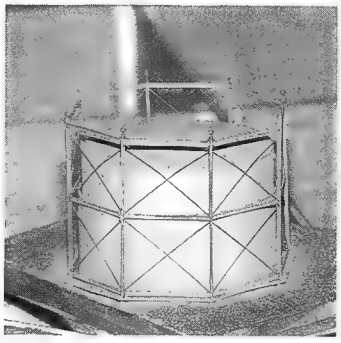
Carshalton & Sutton MRC is offering six months membership at half price as part of its drive to recruit new members to join their regular Monday meetings at permanent clubrooms in Epsom, Surrey. They are currently working on layouts in N, HO, OO, P4, O, 7mm narrow gauge and trams in a variety of scales – no wonder they need help! Anyone interested in joining this distinguished old club should contact secretary David Smith on 0342 712078 (evenings please).

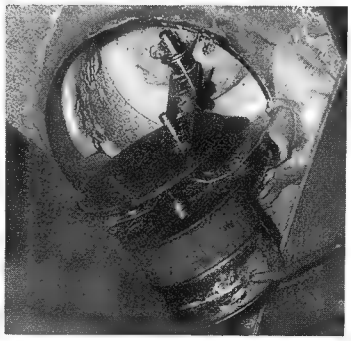
The Gauge One Development Society has been formed to promote 10mm scale modelling on two-rail track using 12 volt supply, a relatively neglected area of railway modelling. Membership costs £5 – details (enclosing an SAE) from P. G. Honey, 7 Sawmill Cottages, Black Park, Slough, SL3 6DN.

Brooklands Model Railway Group has a new secretary, Graham Elliott of 14 Kettlewell Close, Horsell, Woking, Surrey, GU21 4HZ. (0483-723851). The group is located in Byfleet, meets on Tuesday evenings, and is looking for new members.

Northolt Model Railway Club has a new secretary: John Wilcox, 40 Whitehall Road, Uxbridge, Middlesex, UB8 2DG.

Shaun F. Horrocks of 10 Windermere Drive, Alderley Edge, Cheshire, SK9 7UP (0625 582839) has taken over as secretary to the **Macclesfield MRG.**





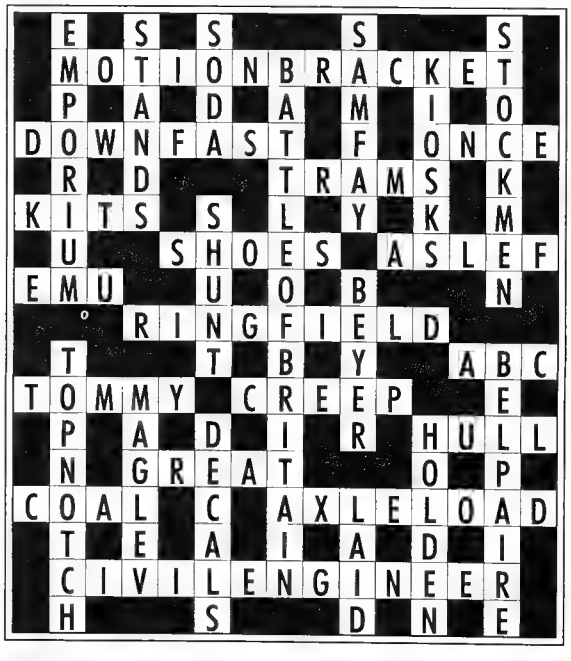
Some people are gluttons for punishment. This delicate gas-holder, scratchbuilt in 2mm scale by Martin Moss of Salisbury, Wiltshire, actually goes slowly up and down as the make-believe inhabitants of the layout consume the imaginary gas! The frame of the holder is made from P4 bullhead rail and fishing line, with sculpted bead finials. The tank, a section of tube, is cranked up and down by a crude but effective motor/cam device.

MRJ CROSSWORD SOLUTION

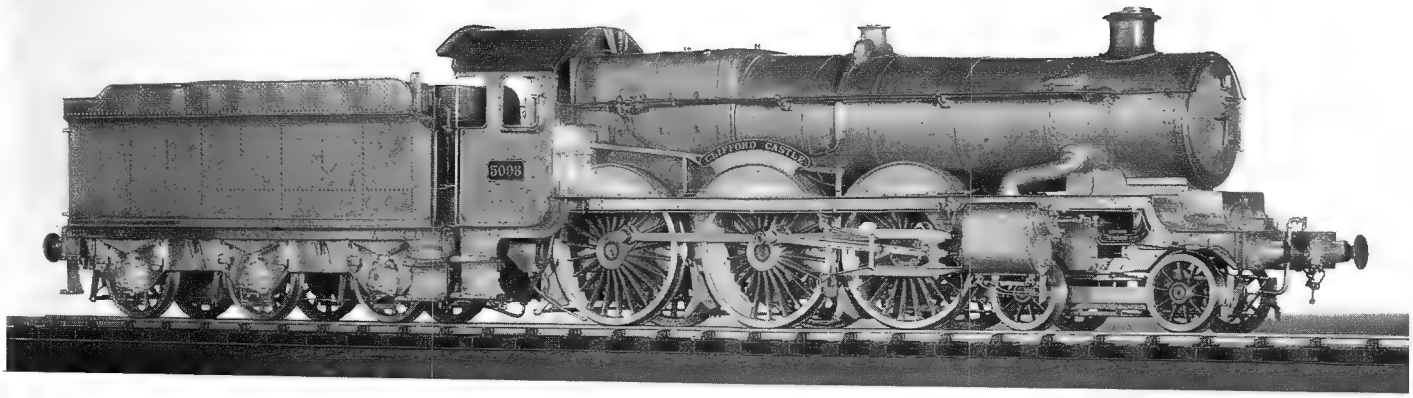
Our Christmas Crossword, compiled as ever by Monty Wells, drew a fantastic response – no doubt due to the fact, as several entrants pointed out, that it seemed a bit easier than the last one, or at least not quite so gruesomely cryptic. Once again, our grateful thanks to all who included kind notes with their entries, giving us lots of encouragement and feedback and reminding us of something we've always known – that MRJ's readership comprises a wonderful, world-wide circle of friends. Your fellowship and support is greatly appreciated here.

The first three correct entries out of the hat – each of whom receive a year's free subscription to MRJ (or the equivalent value in Wild Swan books) were: Ian Dick of St. Fillans, Perthshire; C. Stringer of Horsham, West Sussex; and Richard Taylor of York. Many congratulations to them.

Congratulations, too, to everyone who sent in correct entries. They were: P. E. Whitaker of Hertford; Mike Ainsworth, Teynham, Kent; B. Pickering, Morecambe, Lancs; A. C. Batt, Hampton, Middx; Brian Self, Woking, Surrey; Rod Garner, Guildford, Surrey; M. N. Lawton, Birch Vale, High Peak; Stephen Williams, Stafford; John Burden, Harpenden, Herts; M. J. Pickering, Hamilton, Lanarks; Dave Purvis, Eastleigh, Hants; Steve Hall, Leeds; Paul Bennett, Brentwood, Essex; P. Umpleby, Leeds; Alan Hawkins, Fareham, Hants; Alan Garner, Canterbury Kent; Robin Webb, Buntingford, Herts; Leslie Williamson, Kowloon, Hong Kong; Tim Hall, Bristol; Mike Walshaw and David Porter, Kilmacolm, Renfrewshire; Christopher Rabson, Wantage, Oxon; Brian Clark, Hertford; Philip Sturgess, Leamington Spa, Warwickshire; Ian and Kenneth Middleditch, West Kilbride, Ayrshire; Roger Enzor, York; Neil Knowlden, West Wickham, Kent; Malcolm Parsons, Staines, Middx; R. Taylor, Barnstaple, Devon; Anne Webb-Johnson, Crewe; Andrew Avis, Addlestone, Surrey; Dr. John Fletcher, Dewsbury, Yorks; Tony Champkins, Horsham, West Sussex; Ian Watson, Herne Bay, Kent; Peter Bailey, Havant, Hants; David Tutt, Eastbourne, Sussex; Richard Jones, Heswall, Wirral; John Leatherland, Poulton-le-Fylde, Lancs; Alan Sherlock, Bury St. Edmunds, Suffolk; Paul Mitchell, Manchester; Martin Tester, Cambridge; Dr. E. O. Ashworth, Nottingham; M. J. Holland, Lichfield, Staffs; Alan Joyce, Leicester; David Combs, Lincoln; J. R. Slack, Stockport, Cheshire; Gordon Dandell, Fountain Valley, California, USA; Alan Treacher, Malaysia; Michael King, Burgess Hill, Sussex; Philip Holme, Devizes, Wiltshire; B. J. Fleming, Leamington Spa, Warwickshire; R. G. Frohock, Hitchin, Herts; Martin Hearne, Leatherhead, Surrey; Noel Anderson, Bristol; Chris Thomas, Stoke-on-Trent; D. E. Loeber, Swindon, Wilts; J. Douglas Smith, Weybridge, Surrey; Richard Dagger, Chippenham, Wilts; M. I. Anderson, Ramsey, Isle of Man; Keith Slater, Greenford, Middx; Colin Beyer, York; B. Liptrot, Bolton, Lancs; M. C. Larcombe, Belper, Derbyshire; Roger Lycett-Smith, Worcester; D. T. Elwyn, Harrold, Beds; P. Hall, Widnes, Cheshire; David Morgan, Sandbach, Cheshire; David Sharp, Ashington, Northumberland; C. J. Copplestone, Rottenburg, Germany; Richard Syms, Warrington, Cheshire; David Churchill, Solihull, West Midlands; R. Chessum, Heckington, Lincs; John Friend, Glossop, Derbyshire; Chris Plested, Guildford, Surrey; Stephen Harris, Leighton Buzzard, Beds; John Spence, Portsmouth, Hants; W. L. G. Bennett, Loanhead, Midlothian.



CLIFFORD CASTLE in 7mm



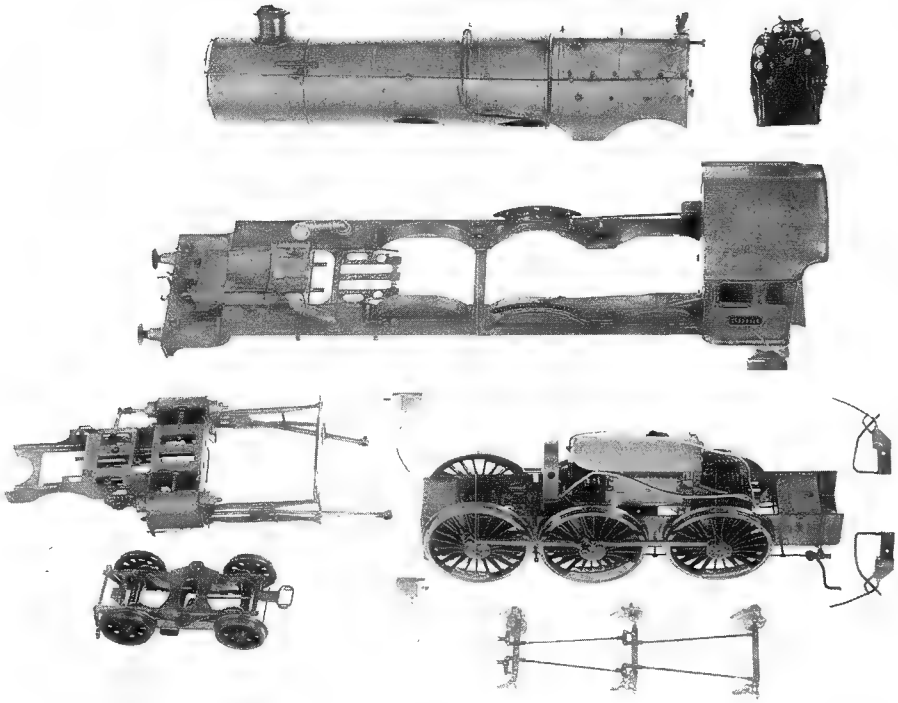
Photos: DAVID WEAR

Tackling his first Malcolm Mitchell kit, CLIFFORD WILLIAMS couldn't resist making his particular 'Castle' into GWR No. 4098 Clifford Castle. Here's a brief account of how he tweaked it to suit his own purposes:

As a result of learning that a locomotive actually ran in service bearing the same first name as mine, I could not resist trying my best to pull off a good likeness, so I chose to have a go with a Malcolm Mitchell kit. The etches were clean with only a very small cusp to the edges, good quality castings, helpful instructions (even if the measurements were for 4mm scale) and lots of copper wire. To this I added Alan Harris wheels and an MSC Crailcrest 14:1 motor/gearbox – so there could be no blaming the components if it didn't work!

The loco chassis went together well with thick nickel silver frames that became a superb heatsink, plus thin brass overlays for the rivet detail. This proved rather awkward until it dawned on me to use low-melt solder for the overlays as there would be little more high-temperature soldering to the chassis. I then tapped the holes in the frames 12BA for the brake block hangers as they are actually 12BA brass bolts, and the cylinders are fastened along with the slidebars by three 8BA bolts – all to make wheel removal easier. The tender chassis was built along similar lines, too, but with the wheel insulation on the other side, power passing through the drawbar – no pick-ups and sweet running.

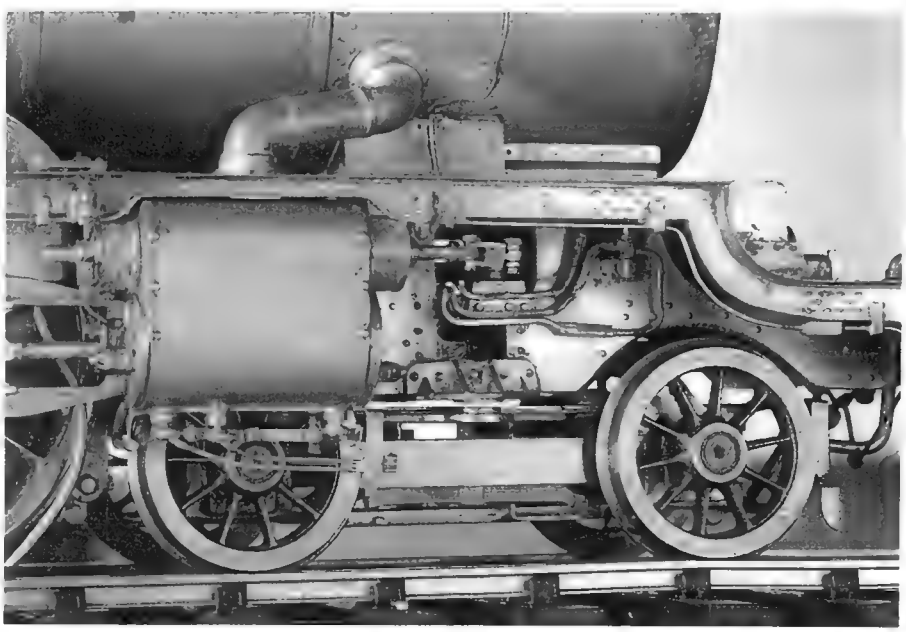
I altered the loco body into three sub-assemblies to reduce the frustration factor, which can become quite a problem when you're trying to do your best. I can remove the backhead in one piece by undoing a 10BA bolt from inside the firebox; this then exposes three boiler



securing bolts that are covered by the backhead. The smokebox end is held to the saddle by the same bolt that secures the front chassis to the footplate.

Prior to painting the loco last summer, I scrubbed the whole thing whilst submersed in water and a liquid floor cleaner, using a glass fibre pen – a tip worth noting as it stops the fibres killing you for days after! I then applied car cellulose primer and Cherry GW green, with all lining done by my bow pen. For a smooth curved line I would lay the enamel line down and then rearrange the curve with a sharpened matchstick quickly dipped in white spirit and the excess wiped off. I found that I could trim down a line or 'push' it to its correct position usually by freehand until it looked right, a version of one method used by Alan Brackenborough and described in MRJ. Transfers are by HMRS Pressfix and the excellent plates commissioned from Peter Thatcher.

I enjoyed this kit as the bits go together well with only a few things not supplied in the box. It looks well with my GW rake of coaches, some of which have won places in the competitions at Gauge 'O' Guild conventions. My pride and joy is observation car Q13 which won the Pemberton Wheel at GOG Telford in 1994, with two more of the rake gaining Highly Commended and Commended placings. I was given the opportunity to show Tony Reynalds the loco this year at Telford and, apart from the Cherry GW green being slightly off colour in his opinion, he gave me the nod. Can't be bad for someone who was only just born when BR withdrew steam.



HAYLING ISLAND

ANGELA HALLIDAY revives a 20-year-old research project and turns it into a 4mm/P4 exhibition layout, with special emphasis on presentation:

A woman modeller! Yes. And now that's out of the way, to the point: why a model railway and, more specifically, why Hayling? Well, I remember how quaint those little engines looked, dwarfed by their coaches, and how their size never deterred them from tearing along just like the terriers they are named after. But there was more than that. I had already done some research into this line and one day the thought just struck me that it would be nice to finish what had been started.

When the project first got under way in 1977, the line was known as the Hayling Island Branch and the idea had been to make an exhibition model. But a lot of water had passed under the bridge. This is the tale of an often bumpy excursion and how a few baseboards, some boxes of bits and pieces and a little stock have evolved into the Hayling Island station depicted here. I do not expect for one minute that it is as it was originally intended, but it certainly has my stamp on it now.

So picture the scene I wanted to recapture: it's an August Bank Holiday in the mid-fifties; holiday-makers are arriving, the children clasping buckets and spades while mums and dads organise the luggage as Ray Woolgar collects tickets. A taxi waits, a farmer reaps his harvest nearby, women chat on the station forecourt as a dog runs loose and a man studies the timetable. Away down the track, a porter struggles with a grass fire caused by sparks. The engine whistles and runs round its train . . .

BACKGROUND

Hayling Island is a mainly flat plain between the Selsey Peninsula and Portsea Island. The shoreline is of sand while the remainder is mostly mud, especially Langston and Chichester harbours. The Hayling Bridge & Causeway Company acquired the road bridge in 1851 and was also given powers by Act of Parliament to construct a railway from the main line of the London & South Coast Railway at Havant to the north end of Langstone (it had an 'e' then). When the London & South Western Railway came in 1859, enthusiasm in the future of the area was revived and the Hayling Railway Company was formed in 1860 by local business interests, who gained Parliamentary permission later that year. Another Act was obtained four years later to gain finance to build a southward extension and dock. This line opened in January 1865, but financial problems arose due to erosion of the mud flats along the edge of the harbour where the line had been laid as a cost-cutting exercise. In 1867 a fresh land route was commenced under the influence of Frederick Furness. However, a Board of Trade inspector refused permission to operate the line due to rotten sleepers, an unauthorised level crossing and broken rails, possibly because the sleepers were laid on shingle.

However, trains did run in time for the second day of the Hayling Races on 17th July 1867. Mr. Furness operated services until the end of 1871, when an agreement with the LBSCR allowed them to provide trains. In 1883, construction on the train ferry terminal began, providing a wagons-only service to the Isle of Wight, which ended in March 1888. The LBSCR continued operation until 1922 and Grouping. Because of the weakness of the bridge, the only locomotive allowed to cross was the Stroudley Terrier, although a 'P' class was tested but never used in full service.

Unlike many lines, the Hayling Branch actually showed a running profit, but it was insufficient to meet the £400,000 needed to replace the ageing and crumbling bridge. The last public trains worked on 2nd November 1963. Following closure, a scheme for running electric tramcars was put forward, but came to nought. Demolition and track lifting began in 1966. All that remains of this delightful line is the goods shed at Hayling – currently being converted into a theatre – the sad stumps of the bridge timbers and trestles, and the remains of the wooden piles of the train ferry. The track bed has since been converted into a pleasant walk along the edge of Langston harbour, but the bark of the Terriers can no longer be heard, unless you take your own four-legged variety.

The task of representing this in model form seemed enormous, and, worse, I had no conception of where to start or what was available to help me – ignorance is bliss! A visit to my eldest son produced some odd looks, the three baseboards, a black engine (a Terrier) and a few wagons, plus pieces of paperwork proclaiming interest in the Scalefour Society. One board had most of the station area track laid whilst among the bits were screws, couplings and scenic material, and a low card platform which I later discovered was the loading dock beside Hayling station.

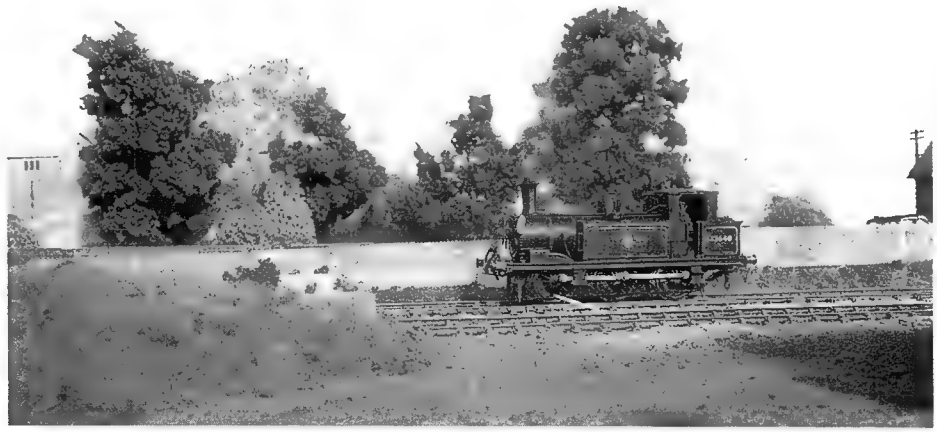
It was a start. However, on attempting to move one of the boards, I quickly discovered they were about three times too heavy to lift. This was no good – the intention was for a portable exhibition model and at best they would need to be

Photos: PHILIP HALL

carried in pairs. I was basically working alone, so it would also be beneficial to be able to assemble the whole lot single-handed. Back to the drawing board. The obvious first step was to join the Scalefour Society and go from there, so I enlisted at the Twickenham & District MRC's Open Day in February 1994 not knowing how these guys would react to some crazy blonde stepping into their preserve. Nothing ventured, nothing gained . . .

The next decision was to lay down some criteria for the layout. I wanted it to be as accurate as possible within my capabilities, which meant exact scale and accurate geographical proportions. I knew I wanted to stay with the original 4mm/P4 standards and to produce a portable model, which called for new, lighter boards capable of being shifted and assembled single-handed. The finished layout had to be suitable for exhibition and would therefore have to be simple to operate, with good automatic couplings to allow movement uninterrupted by hands and fingers. I wanted it to present itself well to the public, so I determined that illumination would be self-contained and as near 'daylight' conditions as possible. Finally, the backscenes had to tally closely to the actual view across Langston harbour, meaning hand-painting, and, of course, the stock had to be representative of the period 1950-1958.

The Scalefour Society details arrived promptly and my first order soon winged its way back – templates, rail, chairs and sleepers. I live in a two-roomed flat and my bench was a small stool with a piece of plywood on top, on which I laid the few tools I had acquired to do the job. A short length of track materialised from



this, and, surprise, a wagon actually stayed on it! However, the rest of the track building was to be a time-consuming task because so very little was rescued from the old boards beyond some timber legs and metal chairs. Looking back, if I had known what I was in for, I would have gone away and taken up photography! Nonetheless, a turnout followed and wagons still ran, so I took the bit between my teeth and made the three-way point. This didn't fit any template in the Scalefour list and had to be designed by combining two left-hand turnout templates, but it worked.

After this burst of momentum, things ground to a halt. What I needed was vast amounts of information, so I wrote to many people living in the Havant/Hayling area and members of the Scalefour Society who might help with technical details. The response was terrific and amazed me. One kind soul sent me a copy of the BR track plan, another advice on signals, and so it went on. Encouraged, I attended various exhibitions to see at first-hand what other modellers had done and how they had achieved it. But I am an innovative soul and had a picture in my mind's eye of what I wanted Hayling to look like. It was once a real, though not always an exactly thriving station with living, breathing people, so it had to be as near the real thing as humanly possible.

For those badly-needed light, yet sturdy baseboards, I turned to the Scalefour Society's Ray Hammond, who kindly sent me details of a suitable method. The material eventually used was 6mm birch ply reinforced by 25mm battens with side and cross pieces of ply to take out any tendency to twist, all fixed with screws and wood glue. According to my scale plan, the length of the model had to be at least 16ft, each visible board section measuring 4ft excluding any method of turning trains. This proved to be longer than my longest room. There was a considerable amount of sawing to

be done even after the woodyard had cut the full sheets into useful sizes, and being a slip of a lass (8 stone and 5ft 5in) it nearly killed me! Alignment between boards is by two dowels set in holes drilled while the boards were clamped together to ensure accuracy. A short shelf protrudes from under one end of each board, onto which the next board can be rested at an angle when assembling – you just lift the outer end and, hey presto, it drops on your foot. Seriously, it works well. Once assembled, case clips hold the sections together tightly.

As I mentioned earlier, I had large scale plans which were transferred to the boards, exact size. I had no conception of compressing distances as I have since discovered is common practice amongst modellers. Hayling therefore appears very 'spread' and spacious, which indeed it was. MRJ's photographer, Philip Hall, kindly said: "Isn't it nice to see trains running through countryside?" On my hand-made track, every chair was laboriously put onto each piece of rail, ensuring that the chair keys are correctly handed to prevent slip. Then each chair was glued with solvent to the sleeper and left to set overnight. As sleepers are ply, they are painted with acrylic to provide a key between it and the chairs when Mek-Pak is applied. As an alternative, C&L Finescale Components sell plastic sleeper bases. A pair of Society gauges ensures the track is the correct 18.83mm gauge, while another locates check-rail clearance. Scale lengths of track were laid on cork to help deaden sound and provide a ballast camber, and white glue and weights held the track down nicely to set. The most noticeable feature with P4 track is the tiny clearance at point blades, check-rails and crossings, thanks to the near-exact scale wheel flange profiles. You may have heard of Clarence the cross-eyed lion, now meet Angela . . .

I had bought as many books on the line as possible, which proved a great help with buildings and structures. A magnifying glass also helped me count bricks, boards and plank widths, etc., in the photographs. The Wild Swan book *Branchlines of the Southern Railway Vol. 1* was a particularly great source of scale drawings of the station buildings. A visit to Puffers at Kenton produced various sheets of plastic card, plain and embossed, but as I had not the vaguest idea how to make a start, I decided to make card mock-ups so that any mistakes could be rectified before beginning the buildings proper. Basically, the structures are layered plastic to allow for window and door recesses and low supporting brick walls. Glazing is clear plastic sheet with Microstrip for glazing bars. Multiple

parts – such as bargeboards and internal roofing timbers – were glued in a jig.

The original station no longer survives and now the only evidence Hayling ever existed is the goods shed and a path which follows the old track bed as far as Langston. A real stumbling block was the colour of these structures. All the books were in black and white, as were all the pictures I could find up to that point. A back issue of *Backtrack* came to the rescue with an article on Hayling including some colour plates – a fortunate find. I wondered why the station canopy looked so odd and discovered that the missing half in front of the booking office was classed as unsafe due to bomb damage and dismantled. I tried to make this as the original, so it is very delicate. Hayling goods shed is an enormous structure and dwarfs the station, but used the same construction procedure, although in this case roof trusses were jig-made. Pictures gave a good idea what the internal detail was in its heyday and I wanted to get this as close to reality as I could. The swivel crane is there, packing cases, bags of flour and all the general bits and pieces one would expect to find inside a goods shed. In contrast, the two smallest buildings are the signalman's lobby and the signal box. Both have full internal detail, the lobby with a stove and an armchair while the signal cabin has the levers, clock, book and desk. The platform is exact length and accepts the maximum number of coaches used on peak days, plus two Terriers (yes, they are even double-headed). The original tarmac area from the exit to just after the end of the canopy is represented by emery paper, while the later gravel-surfaced extension uses fine sandpaper.

The render on the old buildings was weathered by running a thin whitish/grey paint wash, heavily diluted with thinners, into the pointing with a large brush.

At this point, after about a year into the project, I discovered I was not awfully good at locomotives. I tried, but it simply was not my forte. *Scalefour News* and the model press ran an open letter on my behalf requesting help and just one person answered – a man called Tony Cane. I still cannot believe my luck. He is a wonder at things locomotive and was promptly accorded the dubious honour of Hayling CME. As he breaks into a fever at the mention of scenery, he was also made responsible for all rolling stock, wiring and signals. His car solved the thorny problem of transportation, and I am ever in his debt. We work extremely well together and have a similar sense of humour, which is just as well when things go haywire. All rail is live common return including frogs. Selection is by micro-switches on point motors (rather than turnout blades) allowing for either positive/positive or negative/negative track isolation. There are only four sections and six point motors as well as two signal switches on the main panel. Locos, stock and operation are dealt with later on.

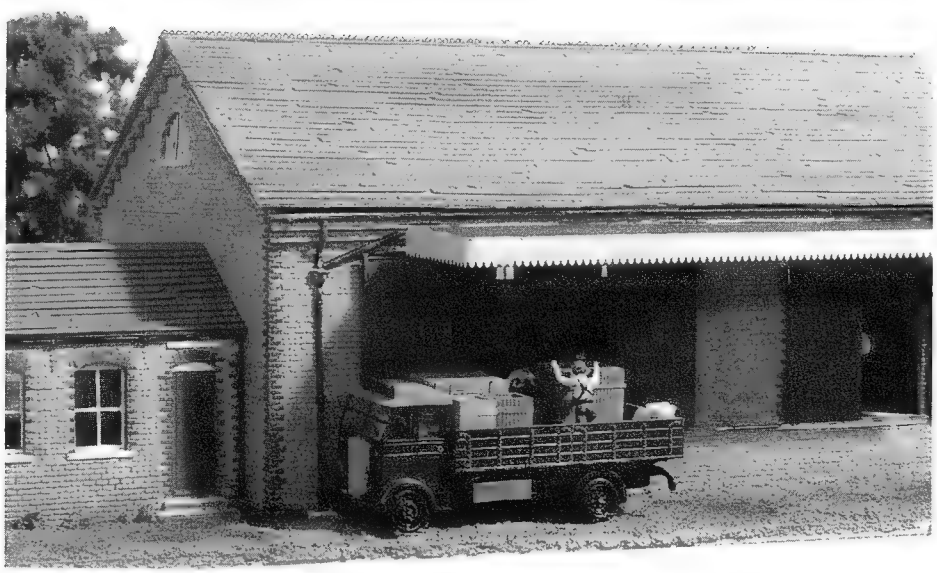
SCENIC EFFECTS

Scenery had to be as realistic as possible. Starting from basics and working up, I studied grass. Photographs in magazines and grassy banks in the country showed rough grass standing 2-3ft high – 8-12mm in my chosen scale – but the articles I saw in the model railway press simply said they were modelled by 'the usual method' – not a great help. I considered there were two materials suitable for grass, lint and/or carpet underfelt. After experimenting, I opted for carpet underfelt to produce the necessary height and coarseness for the majority of rough areas, and surgical lint for shaded places, with a scattering of flock under trees where the shade would be heaviest and grass either non-existent or much shorter. Carpet underfelt is available from carpet shops and lint from Boots or similar chemists.

I painted the ground surface a suitable soil colour, and, when dry, applied a reasonable coating of white glue. Before sticking anything down, I found it helpful to divide the carpet underfelt into two layers, removing any of the clear plastic strips which are sandwiched in to bind it together, thus giving twice the volume and value for money. Once glued down, it is best to tease the underfelt away carefully from the baseboard (I used tweezers) rather than simply tugging at it because it can tear the paint off with it; by teasing you get an even, yet rough, surface. I bought a Badger airbrush and, after carefully standing up the layer of felt with a hairbrush, used several shades of green to obtain a natural look.

Trees are tall, anything from 10ft to 100ft plus, and that converts down to 40mm to 400mm! What do trees look like? Off I went into the countryside to get a good look at the multiplicity of tree characters and to make notes on colour and structure. On Hayling, the trees are a mix of proprietary types, Heki and Woodland Scenics (five in all) and hand-made examples from either a twisted wire framework or over a natural frame of twigs from a clipped box hedge. I looked at many natural materials, but found that box has a tighter twig structure and is generally ideal – in some cases I even glued some pieces together to make the required shape. These branch frameworks were covered with flock or Woodland Scenics foliage. By gluing and/or spearing lumps of solid flock near branch ends as a base for the multitude of leaves and then using a photographic adhesive spray combined with white glue, I was able to build up a realistic formation with individual pieces of loose flock put on with tweezers. Incidentally, after spraying with liquid glue, trees can be dipped into a bowl of flock and gently tapped to release loose pieces, preferably over some newspaper. The same method was used for bushes.

Of course, open countryside is not wholly grass. Weeds and hedgerow plants were made from an old wooden-backed nailbrush by plucking the strands out



with pliers, separating, dipping the tips into white glue, then into appropriate flock, and, if necessary, a brighter material to add flowers. Nettles, achillea and yarrow are made this way.

Farms surround the Hayling line and many people comment on my cornfield – a labour of love that took a solid week to lay. To gain that individual stalk look, I used plumber's hemp cut to approximate length (corn stood about 4ft high in those days) and glued small bunches in lines from front to back. The area where the reaper had already cut, stands lower, trimmed to an even height with scissors. The sheaves behind the reaper were made by twisting cotton round a few strands of hemp, and several sheaves stuck together make a stook.

In my opinion there is nothing worse than the scene suddenly stopping at the rear of the baseboard as if the ground has been chopped away. I photographed from the site of Hayling station towards Portsmouth, and, from the result, painted the picture of Langston harbour with Portsmouth in the distance onto hardboard covered with lining paper. I chose water colours rather than acrylic to keep the painting in soft tones, which, while adding depth and perspective, do not overpower the model. There is a snag, mainly with buildings and roads. As a person's viewpoint changes, so does their angle on perspective, but I felt that was a small price to pay. Obviously there are people at a station, and the ones on Hayling are set in as artistic a manner as possible, doing the things people do while standing on platforms, either talking in groups, sitting, reading posters or handing in tickets, standing with their dog, or workmen in an appropriate pose. The ticket collector is a fair image of the original, one Ray Woolgar, taken once more from photographs. My main aim was to make the figures interesting rather than 'just there'.

The farm scene adds a fresh dimension and was designed to keep viewers' attention while inertia prevails on the model, which fortunately, is very rare. I admit that the tractor/reaper combination and the cart would not have been in the field at the same time, so claim artistic licence in showing the methods used during the period. Of interest is the 'walk' through the copse which seems to go into the background, an effect achieved by leaving a gap between trees, carefully siting a few painted trees in perspective and adding flock in strategic places.

OPERATION

Following a head-to-head, Tony and I decided that signals should work. At the station end they are moved by relays, at the cassette deck end they will eventually

be moved by hand from the rear by the cassette operator, all to be used as indications of readiness. Each signal is removable for servicing. Point rodding is cosmetic, as are the facing point locks, but once again add visual realism.

As far as locomotives were concerned, the governing factor on the Hayling branch was Langston bridge which had a weight restriction. Terriers gave the branch its unique appeal. On the model, this single engine type was deemed a serious operational drawback, but, as Tony pointed out, our designated period lies between 1950-58 so the variety of engine shapes and liveries allowed imaginative design. Each of the engines on the model is a replica of one used on the line, which meant a lot of work for Tony. Thus our motive power comprises a mix of Nu-cast, K's and Dapol bodies, all with fully compensated Branchlines chassis using split axle current collection driven by Mashima 2424 cans. We have found that split axles can shear, something that happened twice on the first day of the first exhibition – disaster! The standard cure, we discovered, was to drill a tiny hole through to the 'tube' near the inner end of the female half on the axle, allowing the escape of air behind the glue as the second half was pushed home. The glue then went the whole length rather than most of it being expelled at the front by trapped air. He also recommends carefully abrading the axle for better cohesion and pinning the wheels if glued onto the axles.

As Terriers are so small, every possible crevice has been filled with lead to aid track adhesion. Coaches comprise Roxey SR 58ft lav brake third and lav third/composite, Ian Kirk low and high Maunsells plus Bachmann BR 10-compartment. All have compensated bogies and a simple but effective brake made from a piece of wire soldered under the bottom side of the bogie, which rubs on the centre of each axle. This was necessary to prevent vehicles hunting slightly while on the move and decoupling. Goods stock is represented by various types of open wagons, vans, brakes, tanks and a low-loader. Wagons use three-legged-stool compensation, one axle rigid, the other pivoted on its centre line.

On the thorny subject of couplings, I am adamant that the 12in scale human hand is completely incongruous on a model and to be avoided like the plague, unless a total disaster occurs. So coupling needed to be easy and automatic, yet have the ability to decouple at a given point and shunt without recoupling – and to have some resemblance to the real thing. Many finescale modellers favour the Alex Jackson type and they are good, but in my humble opinion they look nothing like the prototype, so that put them well down the list. In the end we used Sprat & Winkle 3mm, and, when painted black, they are not too noticeable. There is also at least a three-link dangling down. Our method is to fix a hook at one end and a goalpost at the other. The goalpost is not fixed across buffers because buffer-to-buffer shunting is the order of the day on Hayling and a bar on the outside surface would cause serious problems. To prevent errors in alignment during transport, my stock box is fully padded and the spacers between vehicles are undercut to allow the hooks complete freedom.

Our method of turning and dividing trains has proved its worth and is simple – just a single plain wooden unit to transport, constructed in the same manner as the main boards, with cassettes fitted into a cupboard contained under the deck. There is but a single connection and operating button. A short section of track mounted on a piece of ply allows for the transition and alignment between the main sections and the cassettes themselves. Cassettes started life as simply two pieces of L-angle aluminium mounted on a length of ply, the ply protruding about half an inch one end to facilitate locking

under adjoining cassettes. The bottom lips of the L-angle form the 'track' on which the wheels run. However, each cassette has become a work of art and has many more pieces that we originally thought – 36 in all. Current is transmitted via brass lugs and to ensure stock does not roll off, a portcullis drops at each end. Every cassette is custom-made in length and has letter/number designations for a certain formation of stock or an individual vehicle. They also have diamond pieces set between the 18.83 gap for railing stock as it progresses out. My main problem was how to get trains from the scenic section into the cassette without the transition being too obvious, yet to maintain the effect of open countryside. By shifting a line of trees forward about 20 yards, putting a cross-scene from front to back and allowing just a small square hole for trains to pass through, the cassette is disguised and the train's disappearing act masked.

I try to be a perfectionist. Presentation is important to me and, in my opinion, four main areas require careful attention. The top, the middle, the bottom and the cassette. To reproduce sunlight, lighting is essential, and in any case, is a vital part in the making or breaking of a model. The main options are spotlights or strip lighting. Spots are light to transport and support on the model and can be placed offset, but give blotchy, yellowish lighting as well as generating heat which can expand the rail and affect the operators, who may then start disappearing in the direction of the bar, neither of which are desirable. Strip lights give good, even coverage, almost near-daylight illumination and run cold. But they are heavy and, of course, need to be suspended over or near the model's centre-line. Hayling's strip lights are hung from five gallows by way of hooks bolted horizontally through the gallows arm and vertically from within the light unit. Electrical link is by cable with push-in three-pin connectors, the female being the live end for safety reasons. The gallows are in turn fixed to the layout legs by two bolts. Each of the gallows is collapsible yet easily erected and secured in the open position by one cabinet block in less than a minute. Gallows arms extend to the forward edge of the model to support four pelmets which carry the layout name and hide the strip lights from view, and are again fastened quickly by cabinet blocks. That was the top.

The middle represents the actual model, and naturally the viewer's attention should be focused here. The lower edge of the pelmets are 5ft 8in from the ground, designed around the average eye-level height of the male of the species and meant to direct eyes down into the scene.

Now the bottom. The gap between the scenic board tops to the floor is screened by curtains in pale green, thus hiding wiring and legs yet not distracting the eye. The cassette – I did not want this to be open to general view because it would negate the transition of trains from open view, but at the same time I realised it draws a lot of attention. It would be too

boring hanging a curtain there, so a pair of photographic display boards hide operations sufficiently, yet at the same time allows people to look round the end. This has proved very successful.

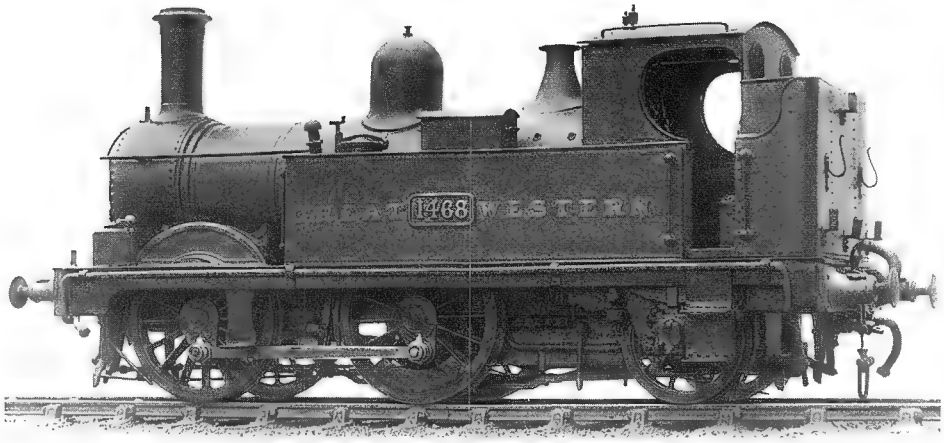
The fifth important factor is the people who come to see the model. Why bother, some say, when they stand and watch anyway? Mainly this: if layout operators claim to love working trains up and down, why are there so many glum faces at the rear of layouts? The answer I received from one unhappy looking chap concerned the concentration needed to operate. Hang on a minute! Torvil & Dean managed to smile while skating, and they must have been concentrating like mad. A model railway operator does not have to risk injury, and I wanted to encourage the 'public-to-layout interface'. The aim is to make the visitor feel a part of the scene and, just as importantly, to ensure that the people involved with Hayling were interested in them and happy to talk or answer questions. The best way is a smiling face and a friendly "Hello, can I help?" And it works. My job as presenter is a busy one, but I am not complaining – I came to modelling with an open mind and therefore free of the 'usual method' of doing things. When I went out to look at exhibitions, I was grateful for those who stopped and gave me some of their time. It is a pity more models are not supported in this way – it is a good PR exercise and the hobby needs it.

That is the story of Hayling. I believe it is quite good, but I am heavily biased! However, I could not have done it alone, so a mention must be made of the people who have contributed, especially Tony Cane who has given his time and invaluable assistance nearly every Wednesday evening since joining, and to the members of the Egham & Staines MRC for operating Hayling on my behalf at shows. Further, the postal services of Branchlines, Model Signal Engineering and Mainly Trains, the cheery faces at Puffers, Thames Trains and Bernard Weller's Exactoscale stand. There are the members of the East Yorkshire and North London groups of the Scalefour Society who took me under their wings and many more for doing their bit. And last, but by no means least, to all those that come to see Hayling and like it. I hope you like Hayling too – it was great fun to make (most of the time!) so do come and speak to me at exhibitions.

I hope my efforts will also encourage more women into the hobby – they have so much to offer to their own or their partner's efforts beyond just doing their bit behind the tea counter at the club or show. I never realised I could paint back-scenes, make trees, track and buildings. I have done my best and it works, but other ladies may be able to do better – so why not try? When people say how much they like your efforts it makes it all worthwhile.

This layout can be seen at the Staines Finescale exhibition (in aid of the Save the Children Fund) on 3rd May 1997, and at Scaleforum at Leatherhead Leisure Centre, 27th & 28th September 1997. See Diary for details.

517 Varieties



GUY WILLIAMS builds a 4mm/P4 example of the GWR's little 517 class 0–4–2T, using the versatile Malcolm Mitchell etched kit:

The new kit from Malcolm Mitchell for the GWR 517 class 0–4–2T engine is designed to be easy to put together, and it has a most comprehensive instruction booklet. It starts with an outline history of the class from the early days and explains how the engines from Wolverhampton Works and from Swindon came to be such a mixture of styles.

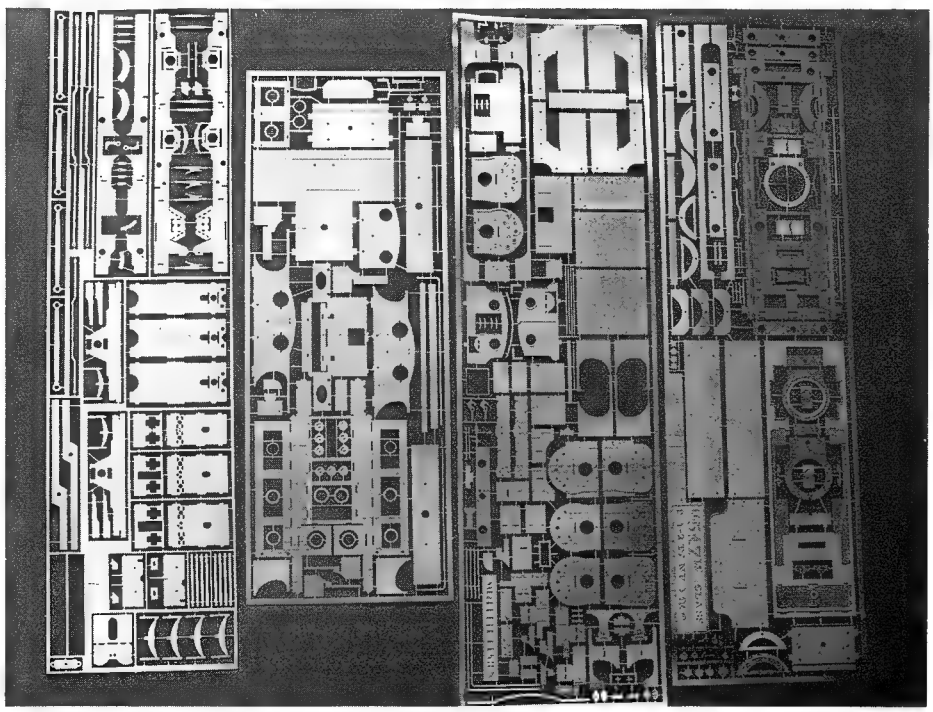
The set of parts attempts to provide the builder with the necessary items to construct any one of a great number of the possible variations. Of course, there have to be some which cannot be done; the early saddle tanks are not catered for, nor are any of the Wolverhampton rebuilds with the smokebox doors, wing-plates or wider plated tanks and bunkers that were so characteristic of these earlier engines. The odd non-conforming engine, like 1159 mentioned later, will also present problems, but in many of these cases a pair of modified or scratchbuilt tanks or bunker will increase the choice even more. As far as actually making the model, you will have to decide on wheels and motor. In 4mm scale it was hoped that Branchlines would have had their new small motor-gearbox combination ready, but that will come later. However, there are small units available from other sources. For the model I made, I chose the Portescap 1219, with the motor fitting quite nicely in the boiler. The Ultrascale GWR 5ft 2in wheels are pretty well right and they also do correct trailing wheels. I made this review model to run on 18.83 gauge track, which involves tight clearances in some places and benefits in others. I'll explain as we go along.

The kit is designed so that a 7mm scale version can be produced from the same artwork, and some of the features are more practical in the larger scale.

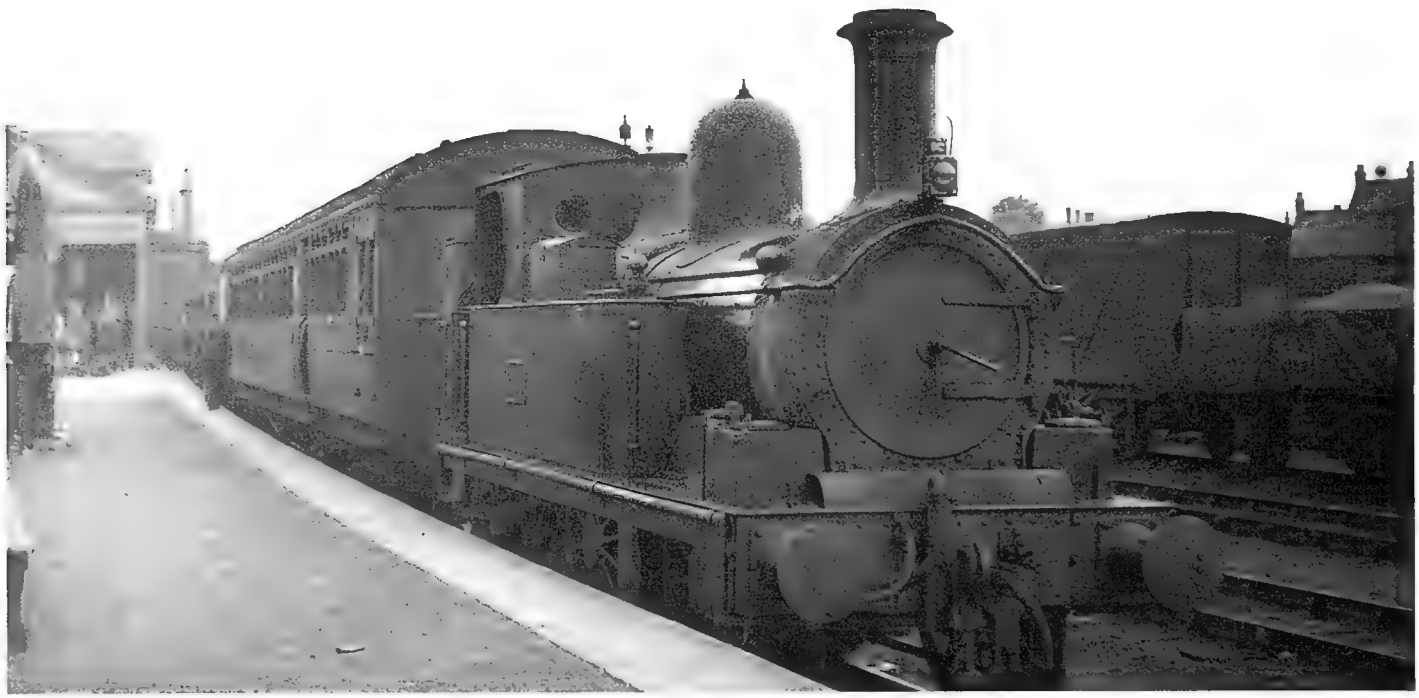
The illustration of the etched parts gives you a good idea of the variety of components provided, and may also reinforce the warning in the instructions to label the little bits with their numbers if you have to cut them out before they are actually used. I use a fine overhead projector pen which is ideal for this.

Initially, I was going to make No. 1159, a late survivor of the class, and I actually made the basic chassis with the long wheelbase for this before discovering that this engine had wide tanks overhanging the footplate. It is not at all obvious unless you have a front view photo. I could not find a list of the engines so fitted in my references, so beware. We then found another suitable subject in No. 146B which was photographed at Banbury in 1926. This engine had a round-topped firebox and a Swindon 'armchair' bunker which had been slightly enlarged by boxing-in the bit behind the back sheet of the early covered-in cab. This variety can be made from the kit, but having gone so far towards 1159, I had to adjust my ideas somewhat.

The chassis can be made with compensated axles for the rear driver and the trailing wheels, with the front axle allowed to rock about a central rod fixed along the centre line. This system looks very promising until you get to the clearances for the front wheels. If you have ever made an 0–4–2 before, you



The etched components.



No. 1468 at Banbury in July 1926. DR. IAN C. ALLEN

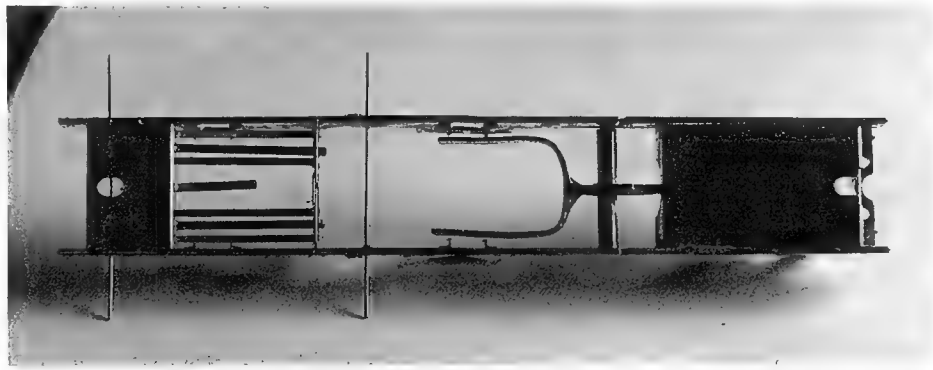
will know that in any gauge there is a problem around the front splasher/ smokebox area. In this case, I wanted to include all the bits and pieces I could, so I tried to include the dummy slide bars, piston rods and so on. Although this is OK in the 7mm version, it just will not do in the smaller size, and the axle cannot rock with all the slide bars in place. A little later, I discovered that the splasher clearance using the fold-up splasher front was not enough for 18.83 wheelsets, even with a fixed front axle. The remedy is quite simple and is provided for in the kit; there are separate fronts for the splashers and these allow just enough room for the wheels to rotate freely as long as there is no rocking allowed, so a fixed front axle is required if you are using 18.83 gauge. Apparently there is no real problem in 7mm.

The compensation is achieved on the rear two axles with a beam, which is divided to accommodate the gearbox on the driven axle. There will be a little filing and fitting to be done on the driving axle angle supports if the gearbox is at all wide. The top-hat bearings on the axles will also need to be shortened. I had a job to hold these things, and finally soldered them to a scrap piece of metal so that I could file them shorter more easily, and then unsoldered them.

In the plan view photo, the beam is quite clear but all the slide bars and so on are in. I subsequently removed them and fixed the front axle, as explained, in order to get the front drivers running freely without touching anything. The other chassis photos show the motor in place. As it is axle-mounted, it can swivel to allow it to enter the boiler and pass completely out of sight.

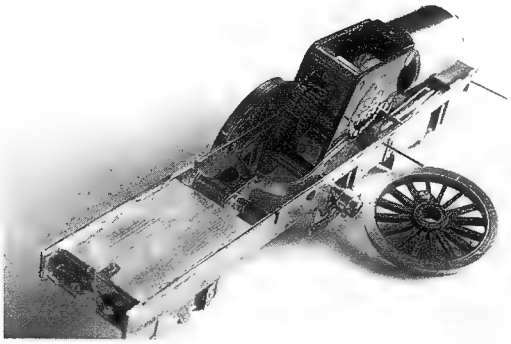
Sorting out the brake rigging and establishing exactly where the reversing or bridle rod goes may be a bit of a puzzle, and the collectors have to go somewhere. This is a very small engine. There is provision for dummy cylinder

Basic chassis cut for long wheelbase.

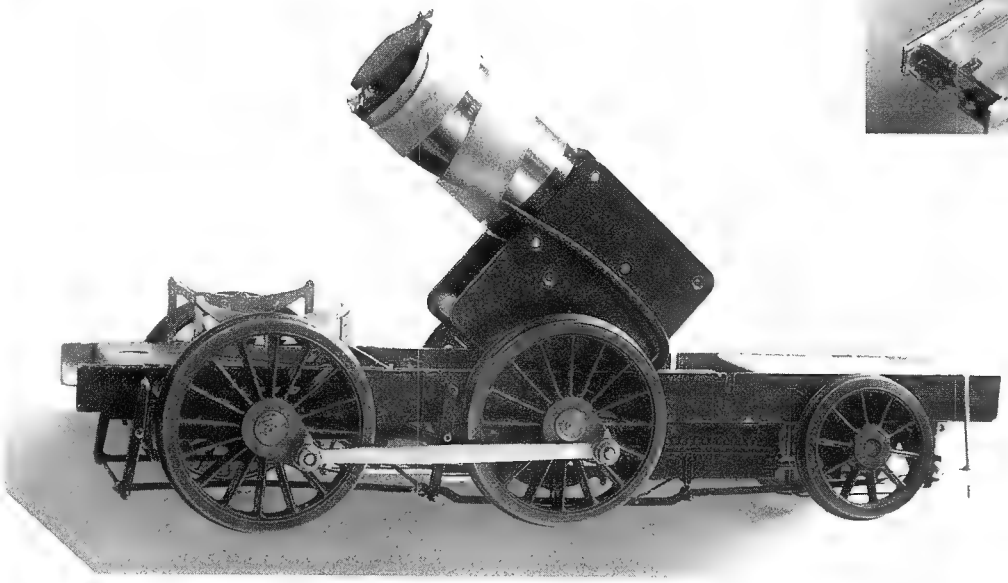


The equalising fork is tailored to fit the gearbox. The slide bars are temporarily in position.

heads, which may be visible under the smokebox if the little access door is left open as it frequently was (but not in the case of my chosen example). For the collector mount, I epoxied some copper-faced glass-fibre board behind the spacer at the front and also under the firebox.

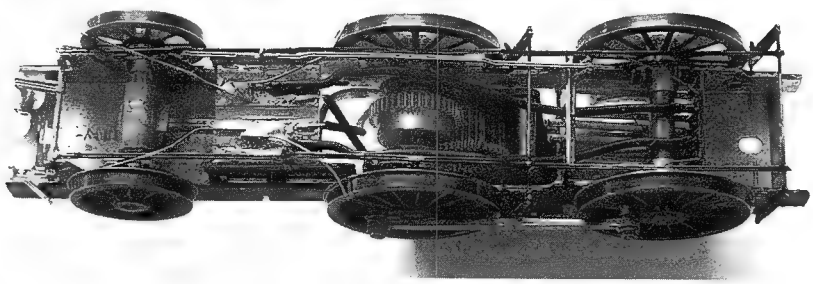


The Portescap just fits.



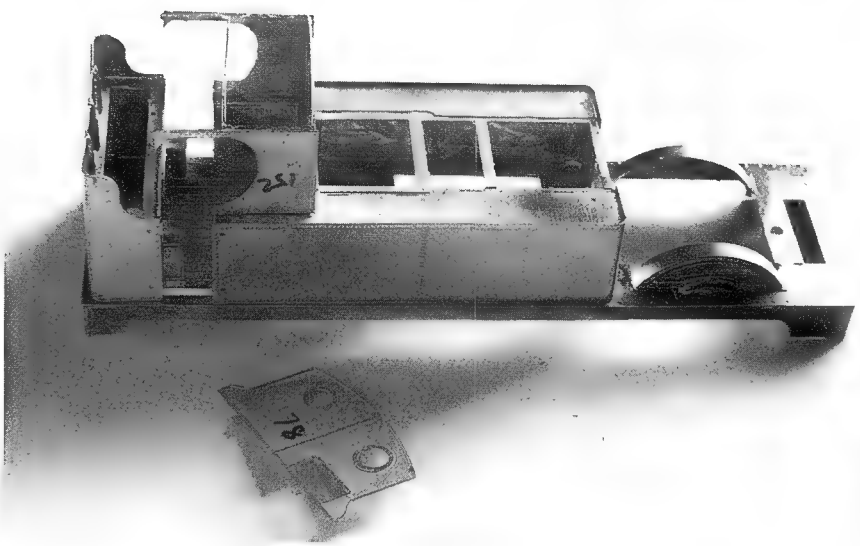
With the brake gear, front springs and wiring done.

The motion plate gets in the way of having long busbars, so they have to have connecting wires, with further wires to the motor. You can see that I taped them to it to keep them from fouling when the motor goes into the boiler. In that photo also you can see that the front springs are soldered to the frames. In the narrower gauges, these will be difficult to get in place between the wheels and the smokebox. Even in 18.83, which is very near to scale, I had to file a little away. You may be able to see how I arranged the 28 gauge phosphor-bronze wire pick-ups. where they are a bit close to the brake rigging, I covered them with a coating of epoxy just in case they ever touch.



With the collectors and wires in.

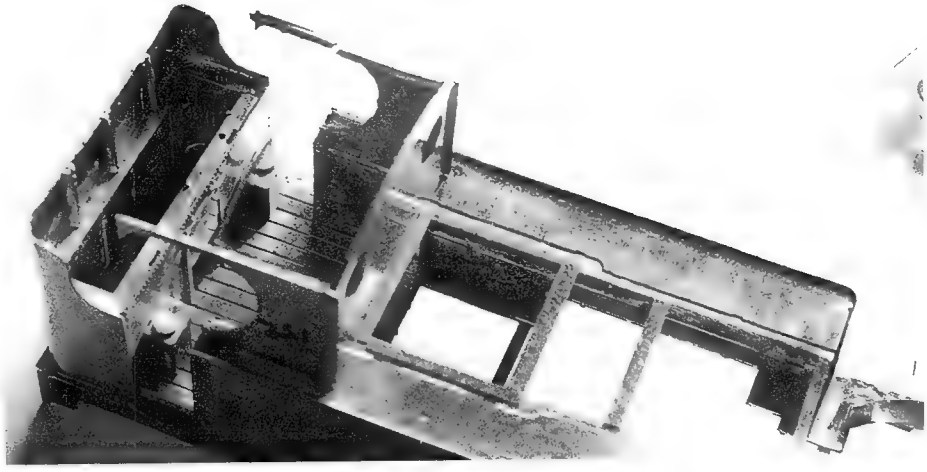
Having got that lot working, you can study the top part. The wheelbase must have already been decided so you must ascertain how long the footplate has to be and whether the thing has Wolverhampton valances or the Swindon variety. This sort of decision-making goes on throughout the building, so be prepared. Actually, it is a delight to have a kit which shows such care in preparation, and provision for so many options. All the bits fit into slots with tabs, which really do go where they are intended. To make life just a little easier, I used my carborundum disc in the mini-drill to polish the tabs on



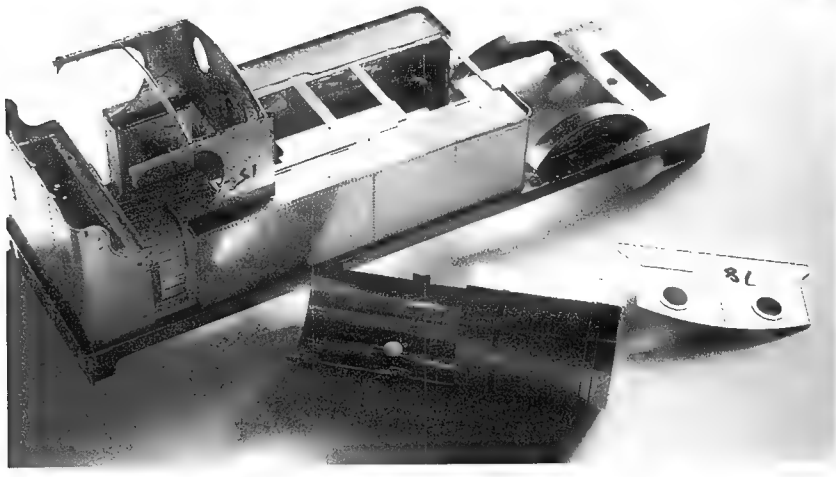
The basic bodywork. Note the identification numbers.

their leading edges where they needed easing, and I took great care not to fill up any slots with solder. If you do perchance, a scalpel blade will clear them quite easily.

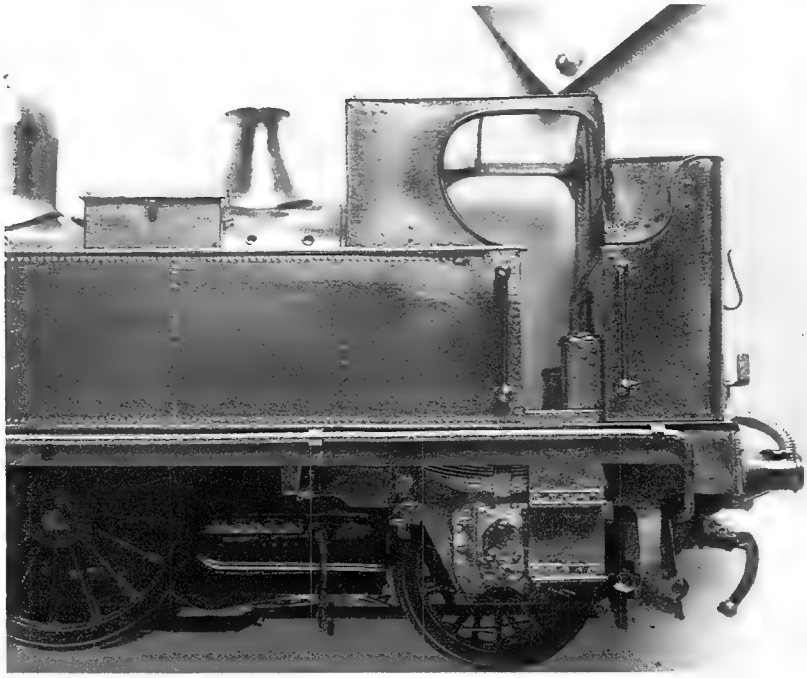
The photos of the bodywork show the 'armchair' bunker in its basic form, it has some infilling to come. At this stage, the cab interior detail is done – while it can be got at. There is a well-detailed reversing lever on the right-hand side and the sandboxes take up quite a lot of room. There is no mention of the sand pipes on the chassis and I forgot all about them until very late in the day. I'm sure these little engines needed sand from time to time.



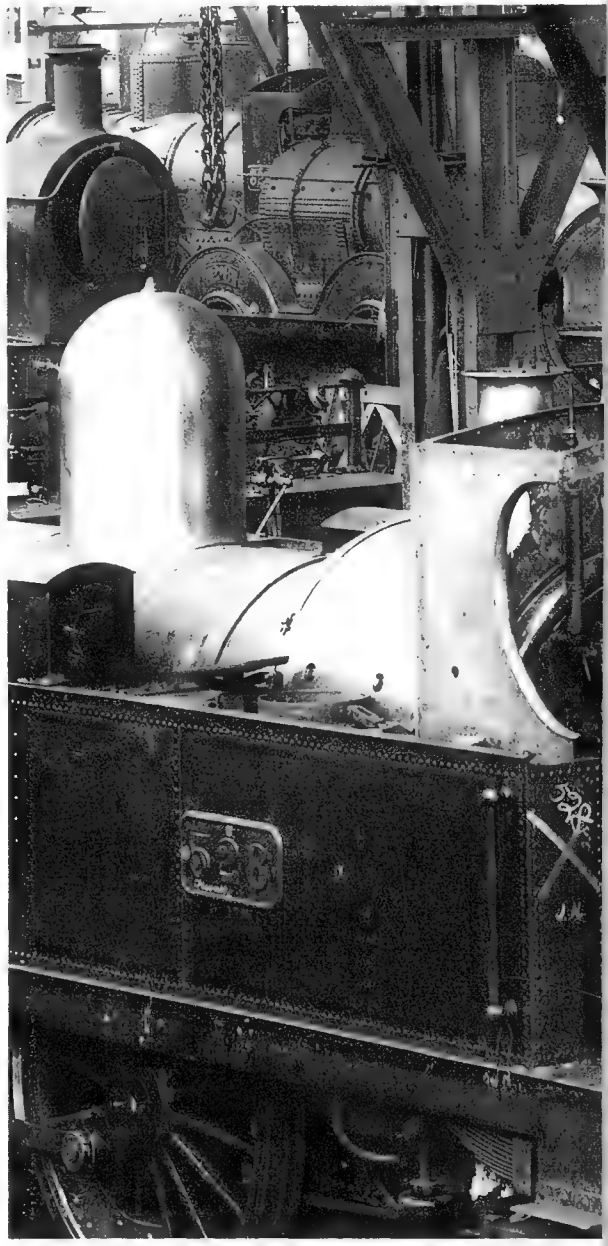
A glimpse into the cab and bunker.



The boiler bits. Note the tabs and slots.

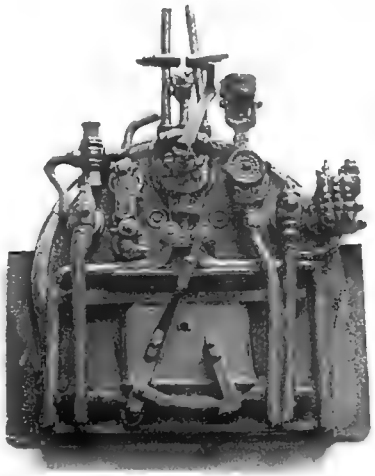


The cab roof uses the tails of the handrails to clip it in place.



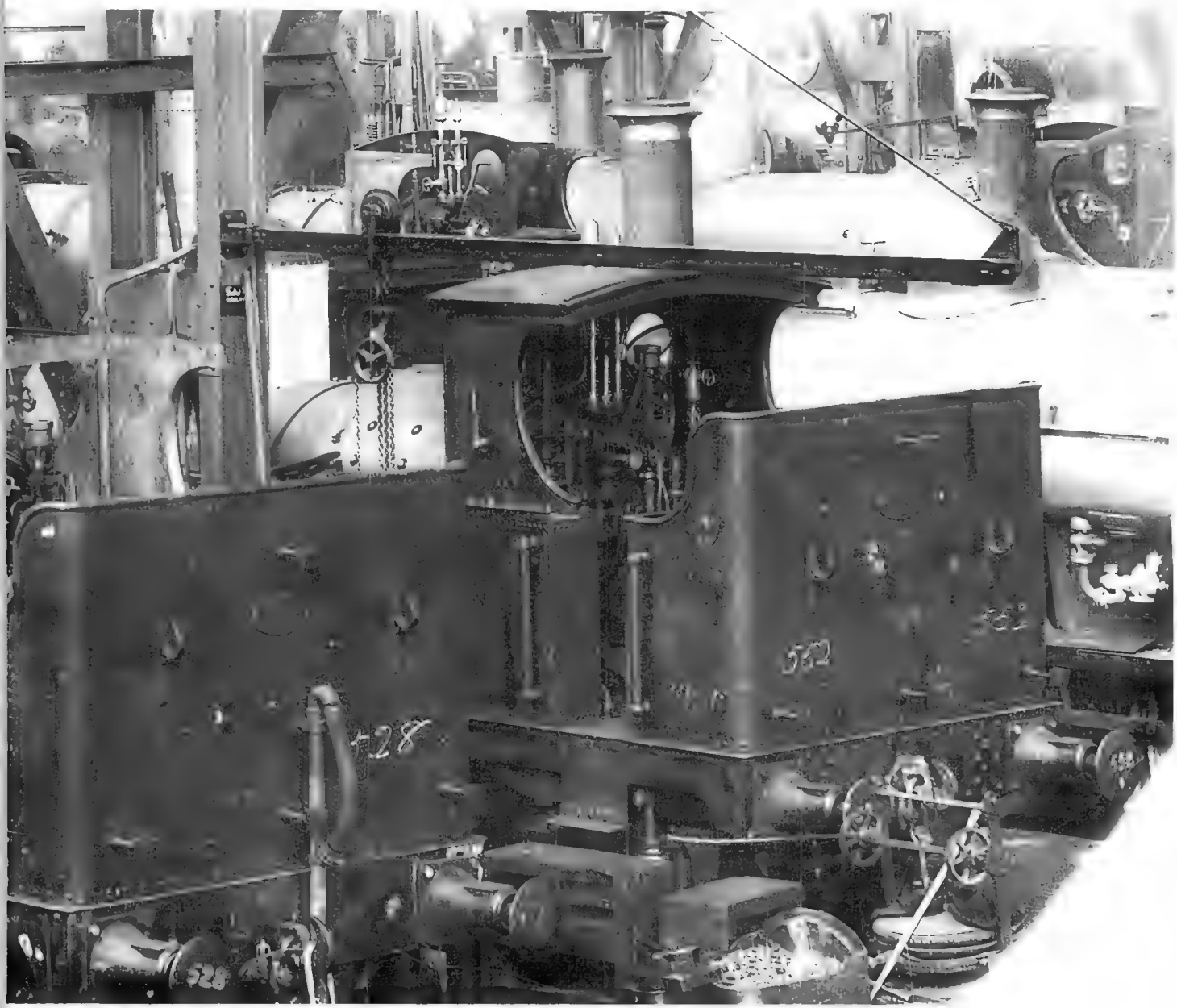
When it comes to detailing, one has to be continually referring to photographs to sort out what goes where. There are, however, some lovely castings provided for the options. One very attractive feature is the method of presenting the backhead as an etching, which can be polished around the edges and then fitted with the fine lost-wax brass detail castings. If you go for an open-cab version, the controls will be a great feature. Even with a closed cab, enough can be seen to be most rewarding.

The instructions suggest that you may have to take some care to get the footplate height just so, and to ensure that there is clearance for the wheels and the coupling rods. I had to adjust the compensation with a tube on the back axle and a little pad of scrap etch on the beam. I will also have a thin piece of black plastic at each end to get the footplate height right. This could also be useful if you wanted to keep the body insulated from the works. Some people still use wheels only insulated one side.

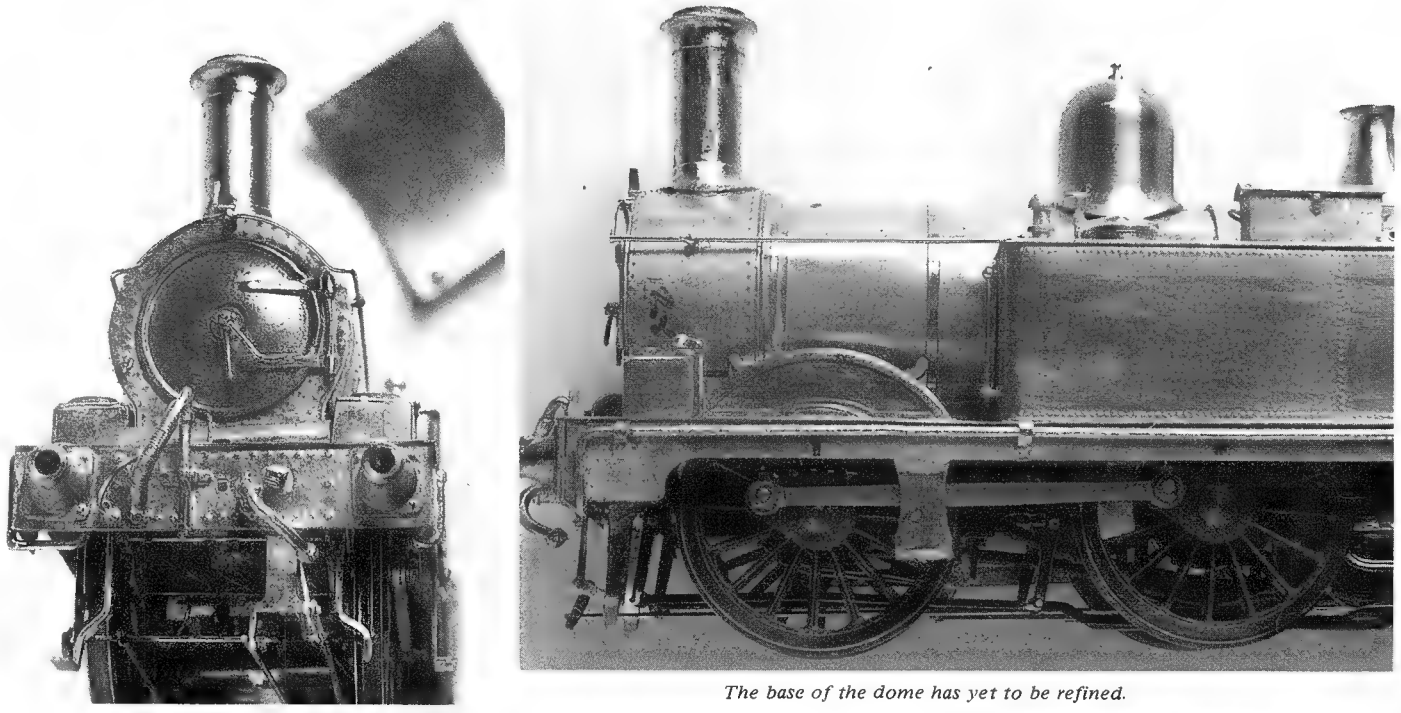


The cab fittings are all in the kit.

It has been suggested that I run through my painting methods, so for those who are interested, I wash my engines very thoroughly in washing-up liquid and leave them to dry in a covered container. Dust is a problem so one has to be careful at every stage. If I have to wait a while before I can actually put paint on, I put the model in a brand-new plastic bag. I normally use cellulose paint for the



NATIONAL RAILWAY MUSEUM



The base of the dome has yet to be refined.

undercoat and the main colour, but I have had excellent results with the newer acrylic spray cans from Halfords. If you fancy these, you could try Ford Lacquer Red for the LMS and Laurel Green for GWR. It's an idea. I still have some red oxide cellulose for undercoats and then I use car cellulose Belco Deep Bronze Green for GWR engines. This is put on with a small spray gun; my airbrush does not really like heavy cellulose, but I always use it for the final varnish.

Once the basic colour is on, I brush the other colours, using sable brushes most carefully cleaned with Humbrol thinners. No white spirit ever gets near my paints. After a good clean, the brushes have a good wash in warm soapy water and are stored upright with their sleeves on to protect them.

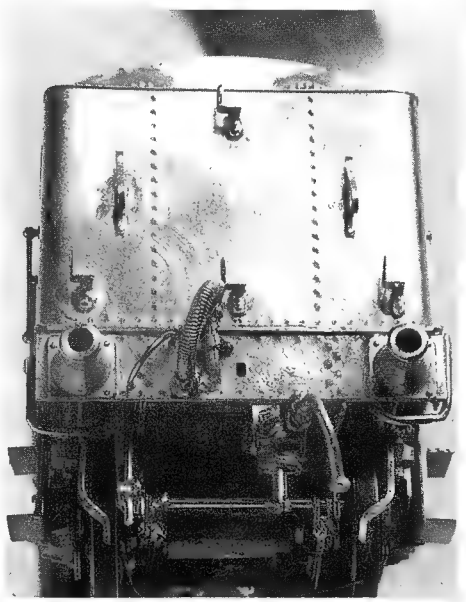
Cellulose paint is impervious to enamel paints, so ordinary Humbrol enamels are fine if well stired (not shaken). I use a piece of 1/8in round brass rod with a misshapen lump of solder on the end in my mini-drill to stir my little pots. However, I take great care to wrap the pot in a kitchen towel when I am doing this, for fairly obvious reasons.

Buffer beams, being usually red of some sort, do present problems; as red is a transparent colour, it needs an undercoat. I paint the beams with Humbrol 147, which is a very light grey. Please remember that GWR engines had china red beams, rather a pale vermilion, whereas most railways used a more solid signal red or even one more like crimson.

For black areas, I brush on Humbrol satin 85. Some may prefer matt 33 for its covering power, but I find its appearance offputting, and even in the unvarnished state it offends me.

If the paint is at all thick, it must be thinned in a little palette or dish, but only enough that it flows off the brush easily. The paint must be put on as evenly as possible, but there will be some brushmarks however carefully it is done. If the area is not properly covered, a second very thin coat usually puts it right. For a factory finish, all that is now required is a flash of Ronseal from the DIY store, thinned with Humbrol enamel thinners, NOT WHITE SPIRIT. There are three degrees of Ronseal, gloss, satin and matt, and they can be mixed to get the degree of shine you want. I also add varying amounts of Humbrol matt black and/or dark earth 29 which can give a very convincing workaday finish. I always apply this layer very thinly with an airbrush, the controllability of which means the areas of dirt can be directed and regulated. It is not terribly difficult but it is most effective. It works well on wagons, too, and on coach underframes.

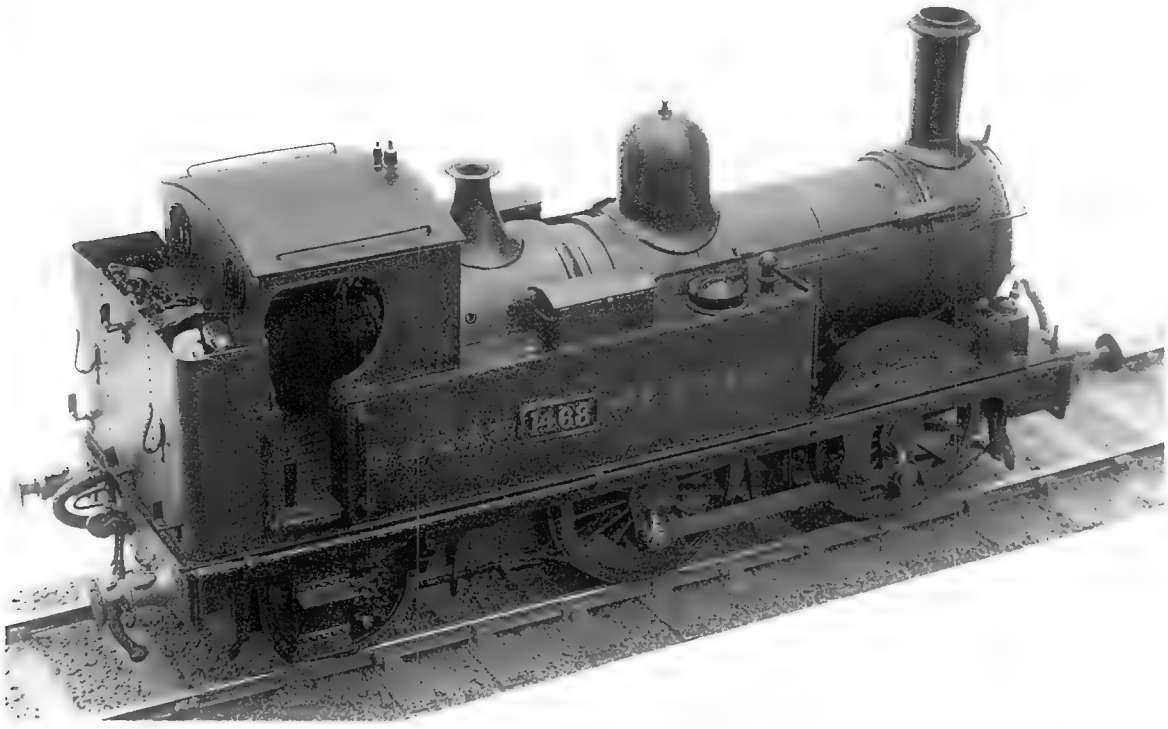
Transfers, of course, go on as soon as the main painting is done, preferably on a gloss finish. To get them as thin as possible, the spirit-fixing ones are the best as long as they are not too thin, when



Some auto fittings are added.

break-up can occur. This can be very hard to manage. The HMRS Pressfix are probably the easiest but are slightly thick. Waterslide are fine as long as they are put on a gloss finish, and if they respond to a decal softener, they can adhere to the painted surface remarkably well. However, if they don't, they can be less than perfect. The only way to find out is to experiment.

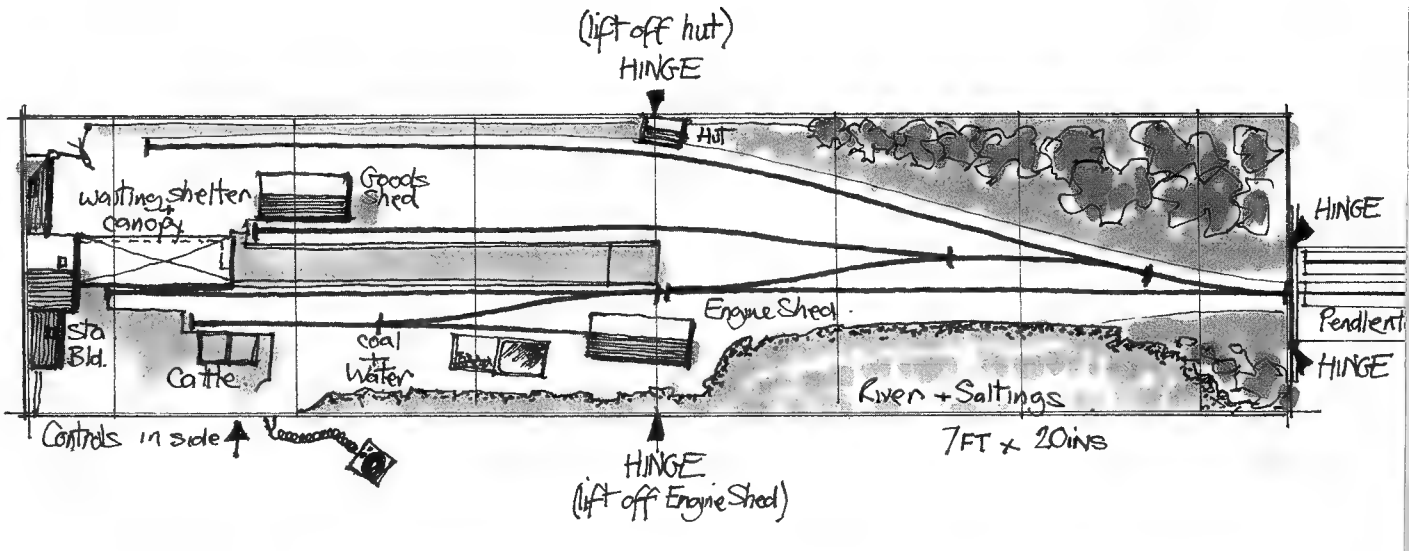
I made the numberplates for the 517 from Martin Finney's sets of separate numbers and plates, carefully cutting out the individual numbers and holding them

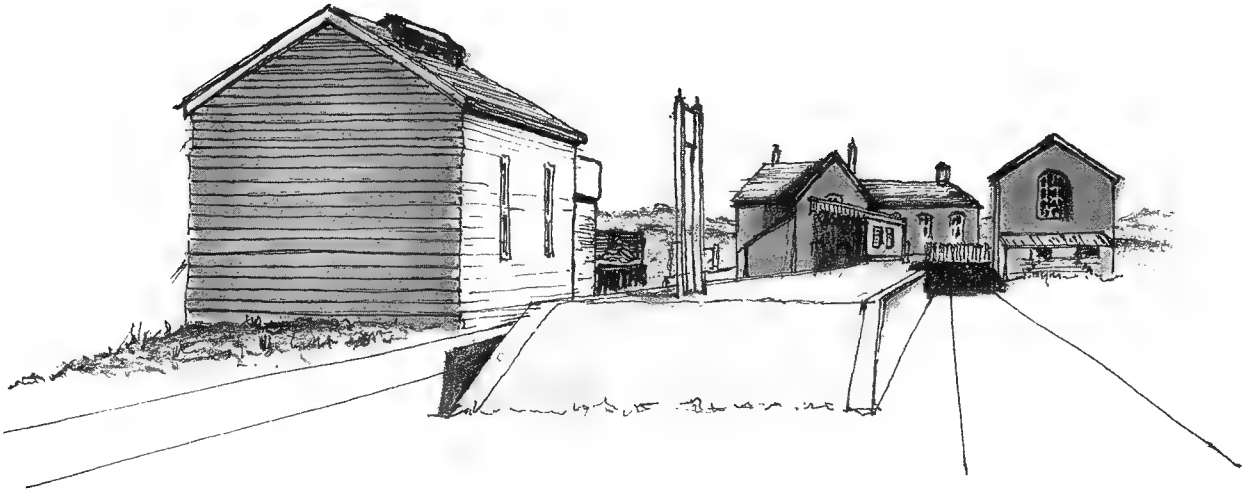


with a finger (or else they go ballistic). They are arranged on the plate in a little lake of Humbrol 85 satin black. After being allowed to dry thoroughly, they are polished on your sheet of wet or dry, stuck down on to a flat board. I hope you have a polishing board I have several of varying grades.

That's about it. This is a kit from one of the masters of the genre, well-researched and executed, suitable for the expert or the less experienced, but not for the slap-happy or those who can't see the point of having all the little bits which make it so interesting.

The 517 kit is available from Mitchell Design, Lower Marsh, Howard Lane, Stratton, Bude, N. Cornwall, EX23 9TE (Tel. 01288 354645) at £85.00 (or £179.50 in 7mm).





SEATON

My mother and father spent their honeymoon in the Devon resort of Seaton. They were among many who fled the damage and ruin of postwar London for the quiet and romance of the coast. The cry of seagulls would have greeted them, floating on the salt spray from the estuary alongside the station.

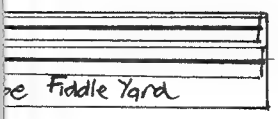
Seaton was a popular destination for the holidaymaker and tourist, just as Lyme Regis, Sidmouth and Swanage were, and all grew around branch lines that trickled from the Southern's West of England main line – yes, 'Summer came soonest in the South'. It wasn't until the 'sixties that the railways' importance declined. No longer were the trunks labelled and dispatched to the sea – we had to load our suitcases on the car roof-rack for the annual journey.

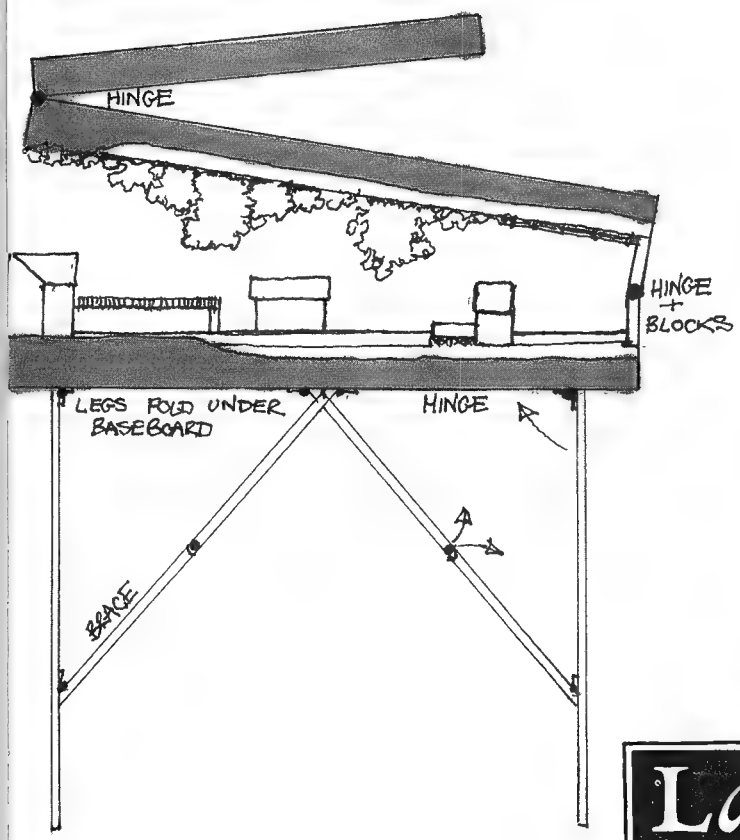
The summertime importance of this trade to Seaton encouraged the Southern Railway to rebuild and enlarge the station in 1936. This made the accommodation of lengthy summer-time specials easier and introduced a touch of austere 'thirties concrete to the town. However, this new life is not the subject of this plan; I have taken my inspiration from the original layout to make this compact design.

The plan shown is unquestionably simple (in contrast to Seaton, Rutland) and I drew it with the image of Peter Denny's Leighton Buzzard

in mind. This folding layout has always fascinated me. Peter managed to compose the scene so that, as the boards folded, all the buildings missed each other. It was thus easy to store and quick to reassemble for some urgent running. With this kind of concept the station is bound to be simple, but from a folded box only 42in x 20in x 15in, a very nice wooden engine shed, country goods yard and two platform faces can be revealed as each board is undone. It also has a delightful riverside location and this has been fully exploited in this plan.

There is, however, little reason to make this an exact copy of the original Devonshire station – one could just as easily think Great Eastern as Great Western. If you do want another look at Seaton, search out *British Railway Journal* No. 36 (and perhaps No. 37) which features the rebuilt station.





Layout Design

Barry Norman

HELP WANTED

Doug Ware of 59 Vicarage Road, Leyton, London E10 5EF, is seeking information on – believe it or not – milk bottles. He needs to model some in 7mm and wants information, specifically on size, shape and dimensions, of the early wider-necked, cardboard-top bottles which came in pint, quart, half-pint and third-pint sizes. Postage will be refunded.

Michael Prince is building a P4 model of Swanage in the 1960s but needs information on the council yard opposite the station, the buildings at the end of the coal yard, Brook Garage and the shop and adjacent garden, and the ice cream kiosk at the end of the platform. He will meet any costs. His address is 90 Ollerton Road, Retford, Notts, DN22 7TH.

John Bridger of Hillgate, Cherry Drive, Seaton, Devon, EX12 2SD, is seeking background information on P. R. Wickham, author of several modelling books in the 1950s and 60s – such as *Modelled Architecture* – and originator of the Anorma range of kits and components. John is trying to find out personal as well as public background, and hopes to produce an exhaustive list of his output. Like us at MRJ, he would also like to know what became of Mr. Wickham.

Russ Garner of Saxon Heath, Tandarri Road, Junortoun, Victoria 3551, Australia, is compiling a comprehensive modelling guide aimed at the first time S&DJR modeller in 4mm for the period 1886-1930 and seeks any modelling and historical information, photocopies of photographs, diagrams and references which may be of use for this period. Photocopying and postage costs will be met.

Leslie Williamson of 8A The Crescent, 13 Ho Man Tin Hill Road, Kowloon, Hong Kong is seeking help with two proposed 4mm models of the Jubilees 45561 *Saskatchewan* and 45611 *Hong Kong*. Some of the class had webbed spokes to support the eccentric boss and others had the plain variety – and Leslie wants to know which ones his chosen engines were wearing in the late 1950s/early '60s. From the indifferent references he has already found, it seems that *Hong Kong* might have had a mixed set! Information would be appreciated. Expenses will be reimbursed.

GOING NOWHERE FAST

ALLAN SIBLEY explains how you can achieve this with a rolling road:

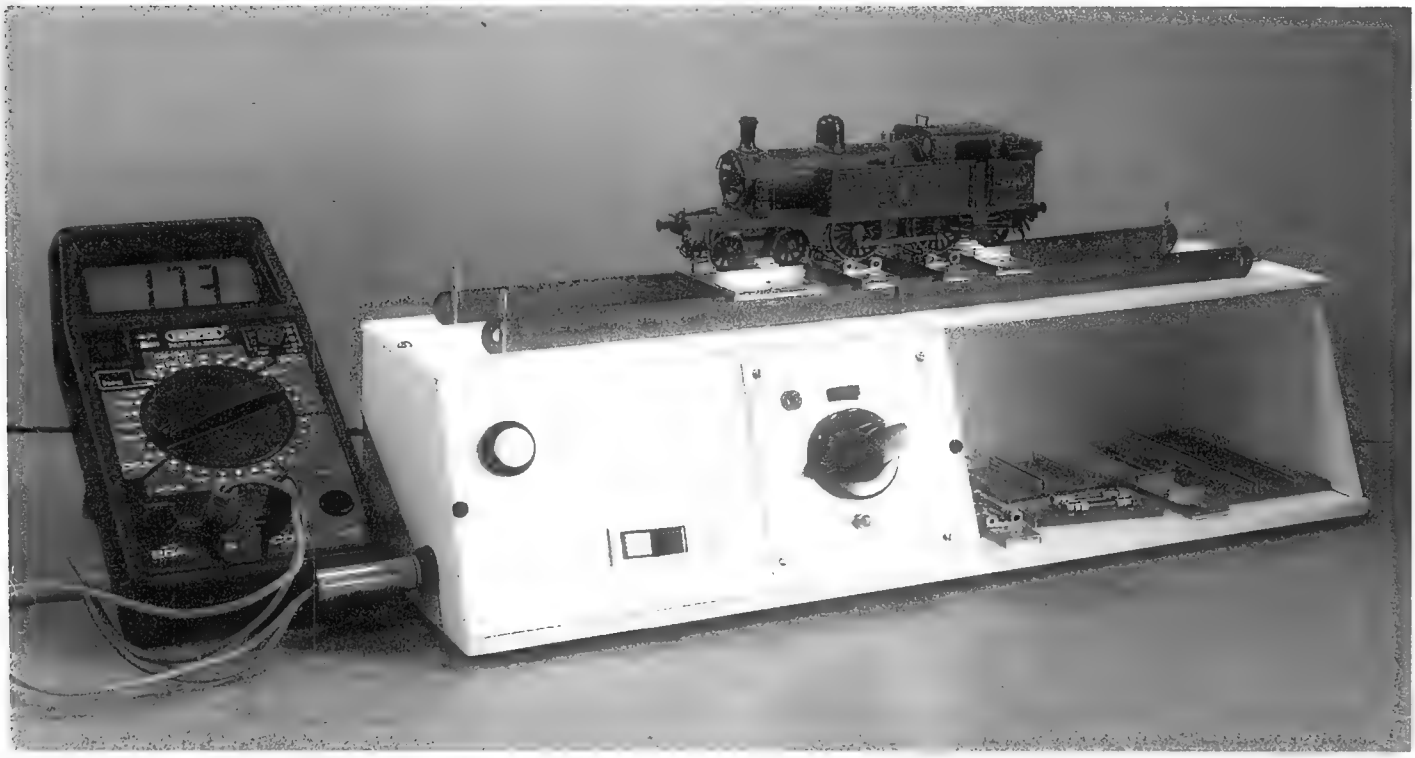


Photo 1

All machinery – cars, railway engines, machine tools and many other things – benefit from a period of running-in when new. Thus the smooth and silent running of even the most carefully constructed model locomotive will improve as the wearing parts bed themselves in with a continuous gentle run, but if you have only a small layout, or no layout at all, it is impossible to achieve. What is needed is the model equivalent of the test plants which used to exist at Swindon and Rugby – a rolling road.

Now I don't pretend to have invented the model rolling road – far from it. There have been one or two examples described in the past, and at least one was available commercially some years ago. What I can claim is some originality in the construction of the do-it-yourself version described here.

The rollers themselves are made from 2mm dia. split axles, each roller having two. The axles are available (with an assembly jig) from Branchlines, and are assembled using slow-setting epoxy (not the 5-minute stuff!) as described in the instructions which accompany them. One word of warning, though. It is necessary to drill a 0.5mm vent hole in the female

Photo 2

Left to right: *(a) Four stages in the assembly of the split axle rollers. (b) The underside of a roller base. (c) The top of a roller base without rollers. (d) A completed roller unit.*

half, so that air may get out when the epoxy-coated male is inserted. Make sure that after you drill the 0.5mm hole you clear out any drill swarf from inside. I didn't, and two out of 12 axles weren't insulated! 2mm / 1/8in brass adaptor bushes on which the wheels ride are soldered to each axle, so that the shoulders of the bushes are at the required rail gauge. I fitted three bushes to each, so that the apparatus suits both 16.5mm and 18.83mm gauges.

Photo 2 shows the stages in construction of a roller unit. The bases for the rollers are pieces of gapped double-sided copper-clad printed circuit board (PCB), each 50mm long by 15mm wide, with sections of code 75 bullhead rail laid on their sides to carry the 1/8in top-hat bushes in which the axles rotate. On the underside, the PCB has two outer guides (also of bullhead rail, but brass strip would be equally suitable) and two transverse pieces of 0.3mm brass wire. Each roller has the top and bottom layers of copper linked by short pieces of wire. I reckoned that six rollers would be enough, for although I don't contemplate building a Union Pacific 4–12–2 in the near future, I do have some six-axle diesels!

Carriers for non-driven wheels – bogie, pony and tender – were made using the same PCB method, but with plain rails. I made two at 15mm wide for single-axle pony trucks, two at 35mm for two-axle bogies, and one sufficient (80mm) to accommodate tenders up to the eight-wheel varieties of the LNER Pacifics and the MoD WD 2–8–0s and 2–10–0s.

The baseboard for the unit is a piece of suitable board. Material and dimensions are not critical – mine is 2mm styrene sheet 14in x 3in which I happened to have handy, but plywood or MDF would do just as well. To this are fixed two standard 12in 24tpi hacksaw blades, teeth-up (and facing the same way on both!), spaced to suit the width across the guides on the undersides of the rollers – in this case 46mm. The blades are held in place by 6BA bolts (three for each blade) which are slotted vertically and are fitted from the underside of the baseboard, as shown in *Photo 3*. The four end bolts are 1in long and fitted with retaining nuts, while the two intermediate bolts are ½in long, to hold the blades parallel but be clear of the guides on the rollers. When in use, the rollers/carriers rest on the saw blades, with positive location being achieved by the transverse wires on the undersides engaging in the teeth. Thus the rollers can be set to suit any locomotive's driving wheelbase to within 1mm (scale 3in).

The unit can be left at this (with four rubber feet on the underside), and powered by a conventional controller with wires attached to the bolts by crocodile clips. The alternative is to progress to the de-luxe version shown in the other photos. The box is also in styrene sheet – 4mm for the bottom, ends and intermediate support, and 2mm for the front and back. Again dimensions are not critical, but must obviously suit the base of the rolling road. My box contains an on-off mains switch, a 16v transformer having two outputs, and a Pentroller connected to the 6BA bolts holding the saw blades. There are also connections on the back to power an external track or layout. The push-button on the front panel feeds 16V from the second output winding of the transformer to sockets on the back – this is for operation of the Alex Jackson electromagnet on my test track. To the right of the panel is an open section in which are stored the rollers and carriers not in use.

The final refinement is the ¼in jack socket on the end. This is of the self-closing type (as used in hi-fi to cut off the speakers when headphones are plugged in) in series with the output from the Pentroller, and it allows an external ammeter to be plugged in if required. The benefit of a digital meter is that it can read current consumption in both directions, i.e. it doesn't need to be wired in 'upstream' of the controller's direction reversing switch – something virtually impossible with the Pentroller's method of assembly.

Well, that's it! Not quite a knock-it-up-in-a-couple-of-evenings job because making the rollers is somewhat time-consuming, but the end result is an invaluable addition to the workshop, allowing locomotives from 0–4–0s to 2–10–0s to be gently run-in without moving an inch.

Sources:

Split axles, assembly jigs, bushes: Branchlines, PO Box 31, Exeter, Devon, EX12 3NA.

White styrene sheet, 2mm and 4mm: Commercial signmakers (mine from Signcraft of Cherry Hinton, Cambs).

Transformer: Kent Panel Controls, PO Box 59, Edenbridge, Kent, TN8 7AW.

Pentroller (budget panel-mounted version): Stewart Hine, 44 Waverley Road, Rayners Lane, Harrow, HA2 9RD.

Multimeter, jack plug/socket, wire, 12in 24tpi hacksaw blades, nuts, bolts, switches, printed circuit board, etc: Squires Model and Craft Tools, The Old Corn Store, Chessell's Farm, Hoe Lane, Bognor Regis, West Sussex, PO22 8NW.

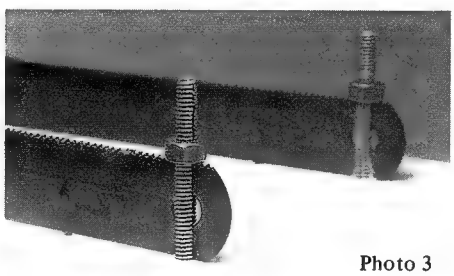


Photo 3

Photo 4

Top right: *How the slotted 1in x 6BA bolts hold the saw blades to the baseboard.* Above: *A close-up showing how the roller and carrier units are used.*

SMALL SUPPLIERS FORUM

Continued from page 42

1980s and now commonly seen. Bernard Taylor of TPM reckons that, with care, these neat little etches can be added without the need for a full-body repaint. The part reference is 1247 and the cost is £2.

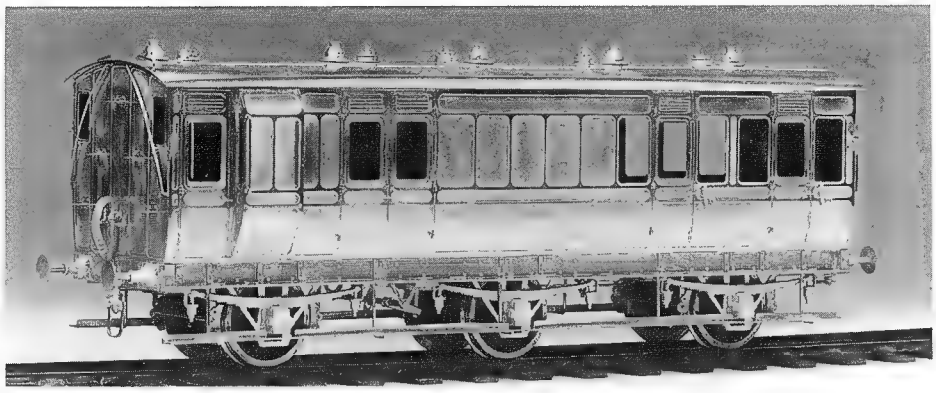
Believe it or not, the 3MM SOCIETY now has a range of 28 plastic wagon kits available to members, and all from top quality manufacturers like Coopercraft, Cambrian and Slater's The latest are from Parkside Dundas – an 11T Conflat A and a 13T Lowfit to Diag 1/102. They come with everything except wheels and cost £3.50 apiece. All you have to do to get them is join the society – contact the membership secretary at 115 Tom Lane, Sheffield S10 3PE.

ALLEN DOHERTY tells us he plans to introduce part of his extensive 3mm range of etched brass coaches in 4mm scale, starting with LSWR subjects. Anyone interested is invited to contact him (with SAE) at 19 Dougles Road, Worsley, Manchester M28 2SR. Any 4mm modellers looking for items not presently produced in the larger scale would do well to see his list.

Visitors to the North Norfolk Railway at Sheringham, Norfolk, can now do some shopping when they get there – the former Milton Keynes model shop, Bletchley Railwayana, has moved there and is now trading as G E MODELS on Platform 2. The mail order address is Sheringham Station, North Norfolk Railway, Sheringham, Norfolk, NR26 8RA (01263 821010).

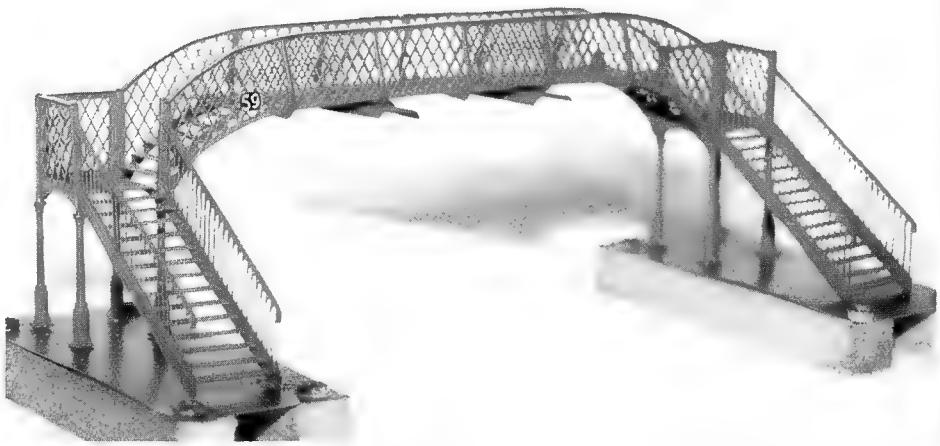
DERWENT ETCHINGS of 45 Second Street, Watling Bungalows, Leadgate, Consett, Co. Durham, DH8 6HR is building up its list of 2mm scale etched kits by using the artwork from Allan Doherty's extensive 3mm scale range. An SAE brings details.

Parkside's output of new O scale vehicles arrive almost faster than we can announce them. Readers may recall our yelp of pleasure in the last issue, when we learned that the next arrival was to be a 16T mineral wagon to Diag 1/108. Well, it's here, and a splendid piece of work it is. Injection moulded as usual, it costs £19.95. Time also for another yelp – next up, we're told, is a BR slope-sided 16T mineral to Diag 1/100, as introduced by the Ministry of War Transport, Parkside Dundas kits are widely available through the retail model trade or you can write to Millie Street, Kirkcaldy, Fife, Scotland, KY1 2NL.



New from Jim McGeown's Connoisseur Models is this Somerset & Dorset six-wheel brake third. Built at Highbridge, they were ubiquitous on the S&D and at least one lasted into the 1950s. Available in both 7mm and 4mm, it is etched brass with whitemetal detail castings, pre-rolled roof and wire for handrails. The 7mm version costs £35.00 and the 4mm, £13.50 post free from Unit 18, Long Lane Trading Estate, Long Lane, Halesowen, West Midlands, B62 9LD (telephone 0121 559 5542). Also new from Connoisseur is a GWR 13-ton Toad brake van to Diagram AA7 – another survivor into BR days. It's etched as usual and is available in both 4mm and 7mm scales. The 7mm version costs £28.00 and the 4mm, £12.50.

As many readers know, a kit manufacturer has only got to announce a new kit to prompt Cyril Golding to turn up a picture of the real thing. So it was that Brassmasters advertised an unrebuilt 'Patriot', and Cyril remembered that he photographed one in 1952. Here it is – No. 45504 Royal Signals *at Rhyl, looking remarkably unscruffy for the period. We can't say the same about Rhyl, mind . . .*



With interest in the old Glasgow & South Western Railway on the rise, the GSWR Association has issued a 4mm etched kit for the company's standard lattice iron footbridge. Made from artwork done by Alastair Wright of 5522 Models and with cast brass stanchions and posts, it costs £35 plus £1 post from Graham Robinson (GSWR Sales), 4 Clochoderick Avenue, Kilbarchan, Renfrewshire, PA10 2AY.

Come on, Bachmann!

The article by John Cockcroft (MRJ No. 92) on converting the Bachmann Mickey Mouse to EM caught my eye as I am contemplating a similar conversion, but it strikes me that discarding the original chassis does make the conversion rather expensive. I for one don't relish paying upwards of £40 for a loco, only to discard chassis/wheels/motor, etc. How many other EM or P4 modellers have admired Bachmann's tooling, but refrained from parting with the hard-earned because they know the chassis cannot be altered to their standards? The obvious answer is to buy a separate body from Bachmann. Well, I have tried, and I received this rather cryptic reply:

> *'We are sorry that we do not have any Ivatt bodies only as spares. The production in China is fully taken up with the supply of complete locos.'*

Yet Bachmann sell separate chassis as spares! If the factory only supplies complete locos then where do the 'spare' bodies go? Come on Bachmann, we know you are geared to mass market sales of OO but surely there is room for the supply of spare bodies to those of us for whom 16.5mm is not our chosen gauge. After all, if Hornby and Dapol can do it, so can you.

Paul Moxham
Bolton
Lancashire

I read with great interest John Cockcroft's 'Mickey Mouse Makeover' in MRJ No. 92 as I am currently wrestling with similar problems in assembling a Comet chassis to go under an ex-Wrenn 2–6–4T, also in EM gauge. A couple of matters, I think, are worthy of comment.

Firstly, I notice that Mr. Cockcroft refers to the motion bracket but makes no mention of attaching the slidebars to this bracket. Inspection of his photographs seems to confirm what is rather implied in the text – there is no attachment! This would seem to be standard Comet practice, since the same situation applies to the chassis for the 4MT tank locomotive and presumably stems from their design philosophy of offering chassis kits consisting of several standardised sub-kits. This presumably reduces costs but it does not suggest sound engineering, since the unsupported rear ends of the bars are free to flex up and down, nor does it lead to a satisfactory prototypical appearance. It would be interesting to have Mr. Cockcroft's comments, and indeed, those of Comet on this matter.

The second point of interest is the problem of loose shafts when using an MJT RG4 conversion kit. While Mr. Cockcroft's cover plate will prevent the shafts from moving sideways (or falling out completely!), they will not prevent rotation of the shafts. My understanding is that this type of gearbox should operate with the shafts held rigidly in the sideplates and the gears rotating freely on the shafts. If the opposite happens, wear of the sideplates is likely to be fairly rapid. I met this problem with a similar conversion, made some time ago when the MJT sideplates were milled in .036in material instead of the present thinner etching. The difficulty seemed to arise partly because the original Portescap shafts were on the short side and did not pass right through the plate. The answer was to replace them with longer shafts, secured in one sideplate with Loctite, which is probably more suitable than cyano for working in an oily environment (naturally the parts must be completely free of oil when making the joint). There was difficulty in obtaining 1.5mm diameter material for the shafts since most stockists of silver steel rod offer nothing smaller than 2mm. However, Eileen's Emporium now keeps 1.5mm drill stock material which is very suitable.

J. Douglas Smith
Weybridge
Surrey

That pesky Mickey Mouse

I was pleased to see John Cockcroft's article on the makeover of the 'Mickey Mouse 2–6–2T in the last MRJ. I was very impressed with the Bachmann product when it first appeared in its ready-to-run form a year or two ago, but the addition of a new chassis with scale wheels and valve gear has transformed it into a superb model of the highest order.

After a span of 30 or so years, I can look back at the Ivatt tanks with a certain amount of warmth, and indeed nostalgia, but the truth is that back in the 1960s the arrival of the Mickey Mouse tanks in my neck of the woods was greeted with a certain amount of disdain. Their arrival signified the departure of some of the older 'local residents'. On the Swanage branch, the Ivatts took over from the ex-LSWR Drummond M7 class 0–4–4Ts, whilst in Weymouth they saw off the last of the ex-GWR pannier tanks. As is probably well-known, they even appeared on the Weymouth Harbour Tramway looking very incongruous as they took the Channel Islands Boat Express through the streets from Weymouth yard to the quay.

I have often wondered on the origin of their nickname – which I believe I am right in saying was equally applied to their 2–6–0 tender engine cousins and by which they were already well-known in the 1960s. By coincidence, when the last MRJ arrived, I happened to be reading Len Deighton's novel *Goodbye Mickey Mouse* based on the exploits of a United States Eighth Airforce P51D Mustang fighter squadron in World War Two. The preface to the book is largely an extract from *The Barnhart Dictionary of New English* which reads thus: 'Mickey Mouse, US military slang. Anything that is unnecessary or unimportant. (Named from the Walt Disney animated cartoon character, in allusion to its childish appeal, its simplicity, triviality, etc.)' This suggests to me that the nickname perhaps originated with a generation of railway enthusiasts a little older than me who shared my apprehension about their arrival hastening the demise of old favourites. Certainly the locomotives seem to have been well received by the enginemen who worked them so they could scarcely be considered unimportant or trivial but no doubt their simplicity was appreciated. Further thoughts on the matter would be welcomed.

Gerry Beale
Oxford

Gladiator strikes back

As the designer of the Gladiator Models 7mm Stanier Mogul kit reviewed in MRJ No. 91, I would like to make the following points:

The surgery shown in Diagram 2 is not necessary as this seems to have been done in the mistaken belief that there should be daylight through the frames above the cylinders. Elongating the holes for the pony truck bearings is also not required – the leaf springs are not anywhere near the track, but are at the top of the pony truck. If anything, they are more likely to foul the frames if very tight curves are to be negotiated. The things referred to as errors in the review are down to faulty construction, not the kit. I would not recommend a taper boiler, Belpaire firebox, outside valvegear engine as a modeller's second etched locomotive kit. This sort of complexity should be worked up to more slowly. Also I would recommend that a basic rolling chassis at least is built before constructing and part-painting the body for it. Thought should also be given to current collection and insulation at a much earlier stage. Mr. Fillingham contacted us when he experienced difficulty and I prepared a special diagram to aid him. It would seem that even this was not enough, but he did not bother to get in touch with us again. We can hardly be expected to disassemble painted display models at shows although we would have been happy to discuss Mr. Fillingham's model if he had brought it along with him.

A more comprehensive means of identifying the parts may indeed be desirable, such as labelling which panels they appear on. This may save the builder some time, but would add to the time taken to produce the kit. This is already quite considerable and completely out of proportion to the returns, except for the pleasure and satisfaction it can give. We are in any case one of the few manufacturers that already puts part references next to the items on the frets. We were disappointed that MRJ saw fit to publish a review of a relatively complicated prototype by a self-confessed inexperienced modeller, especially given the difficulties he obviously had in building it. It hardly gives a fair representation of the kit to those with a bit more experience who could do it justice.

David Andrews
Cheltenham
Gloucestershire

Ultra-slow is dull – and wrong

Yippee! At last someone has pointed out that all this ultra-slow running at exhibitions is not only dull but frequently wrong ('Look lively!' – Letters, MRJ No. 92). Having escaped the days of prehistoric loco chassis, it does indeed seem that many operators are determined to prove that their locos can run over double slips at a scale 2 mph ad infinitum. It is very boring not only for the younger show visitors, who may become the next generation of modellers, but also for anyone who has observed how the real animal behaves. Real trains do not always go crawling round as if tomorrow will do, even on branch or minor lines. There is ample archive footage to prove this.

The Westinghouse air-braked steam trains on the Isle of Wight used to stop and start very smartly, particularly on a summer Saturday, when the lines out of Ryde were intensively worked. On film, the locos give a very stong impression of belting up the platform, stopping on a sixpence, and then restarting equally promptly. Probably the trains are not doing more than 20mph at any point in the shot, but it doesn't *look* slow. On the narrow gauge preserved lines like the Festiniog or the Talyllyn, where I am a volunteer fireman, you will see plenty of smart operation. Both

lines are quite capable of bringing a Down train into their termini, emptying it, refilling with more passengers, servicing or changing engines and out again in 10 minutes. Now that's real operating, quicker than it takes to shunt half a dozen wagons in P4 . . .

Model operation should be trying to capture the character of the train working on its prototype. Speed can be a very deceptive sensation, so that relying entirely on 'scale speed' in a model tells only half the story – 15 mph seems impossibly slow in a modern car, while on a narrow gauge footplate it feels more like being on a galloping horse; 60 mph is a white-knuckle ride in a pre-war sports car, boring in a modern saloon. Attitude of mind also creates character of operation: shunting and loco disposal is usually handled smartly on any line with paid staff, where dawdling means a shorter lunch break or a later finish to the day's work. Even on a more relaxed railway, many stock movements are routine, and proceed with a fluency which comes from endless repetition. In more unusual moves, delays only occur when there's a chap in charge of the shunt who hasn't thought out what he's going to do. Ultra-slow running tends to be reserved for shed areas where people are working, propelling stock, or working in conditions of restricted sighting.

On more practical matters for exhibitiors, there are always queues to see decent layouts at shows. If there are too few trains going too slowly, it takes longer for anyone at the front of the queue to see the layout properly. So everyone else has to waste more time in the queue for their own turn. Even if you're operating a truly bucolic branch line, everyone wants to see your one train a day – so for gawd's sake keep it moving!

Eddie Castellan
Stafford

I feel obliged to write in support of Reginald Collins' letter in MRJ No. 92. It has long been my impression that model railway engines are made to creep and crawl about far too slowly. In the old, real world, shunting engines used to leap forward (or backward) as if from starting blocks. Why else did the railway companies invent shock-absorbing wagons and label 'Not to be rough shunted' on wagons carrying fragile loads? It was not unknown for passenger trains to be given the same treatment when the driver was in a hurry. In pre-Beeching days, when I used to travel on trains wishing to photograph them when they arrived at a branch line terminus, it was often a race to get out of the carriage and run forward of the train before the engine had been uncoupled and run round. Most times I lost!

It is my impression that the model railway controller which best represents the characteristics of a steam engine is the ECM Compspeed Rambler with button controls. Pumping away in short, sharp stabs on the green speed control button produces a lifelike acceleration reminiscent of the puffing, pulsating power of a reciprocating steam engine. Similar treatment given to the blue braking button reproduces the effect of frequent short applications of a vacuum brake lever. Some of the ponderous shunting and movement of trains that goes on in many of the model railway layouts on exhibition today is low in entertainment value because it lacks conviction.

Norman Simmons
Fleet
Hants

I was moved to write after reading the comments of Reginald Collins in MRJ No. 92. I too occasionally enjoy a day out at a model railway exhibition and would agree with your writer – the operators are having a wonderful time ringing bells and earnestly reading cards that tell them when the next train is due, which loco pulls it and how many wagons make it up, but we the public get a distinct feeling that we are being left out. I admire the scenery and buildings and recognise the amount of work that has gone into producing them, I am also consumed with jealousy that a loco can be made to run as smoothly as they do, but can't we see a few more actually moving?

I hesitate to mention that my exhibition layout is Hornby Dublo 3-rail and virtually everything on it came out of Binns Road, Liverpool, but there are a minimum of four trains moving at any one time; they stop without warning, fall off, and occasionally cook their armature windings in full public view, but I get many flattering comments because it is fun and the next generation of railway modellers are the children on fathers' shoulders asking me to make the trains go faster.

There must, I feel, be more layouts somewhere between these two extremes that will capture people's interest and have children wanting train sets and not more computer games.

Captain J. R. Howel
Halsall
Lancs

Ambis lever frame

I read with interest the article by Stephen Harris about Ynysarwed Sidings (MRJ No. 92) and would like to pick up on his comments about the Ambis lever frame and offer a simple solution to the problem he encountered with the built-in electrical switches.

I built a 12-lever frame some years ago and the only trouble I encountered was with the reliability of the switches. I have constructed a further 6-lever frame recently to match the previous frame and made suitable amendments to the ends of the frame to allow small microswitches to be fitted. I enclose a drawing to show the dimensions, etc. I hope this will enable others to achieve the reliability they need with the frame. Incidentally, I made the amendments after constructing the frame, so all is not lost to those wishing to amend their existing lever frames.

John W. Shaw
Chandlers Ford
Hants

Toads

With reference to the article by John Hayes on the upgrading of a Ratio GW brake van kit (MRJ No. 92) I would like to make the following comments. Not being a GWR modeller, I am not in possession of Russell's *Great Western Wagons* book, so my comments are based on copies of GW diagrams.

The AA11 and AA13 vans can be modelled in the same manner as the AA15, but have tie-bars between the W-irons, two-pane end windows and buffers of the type supplied with the kit, and the chimney was positioned on the centre-line of the roof on A11 vans. AA18 vans are almost identical to the AA15 ones. The AA19 and AA20 vans again are similar to AA15 but have lost the lockers adjacent to the entrance doors, the brake column is moved to the left of centre (looking from the cabin door) and the chimney is further from the end of the van.

The AA21 is similar to the AA20 but has a vacuum cylinder mounted between the sand boxes at the verandah end, no verandah lockers, and a brake valve to one side of the cabin door.

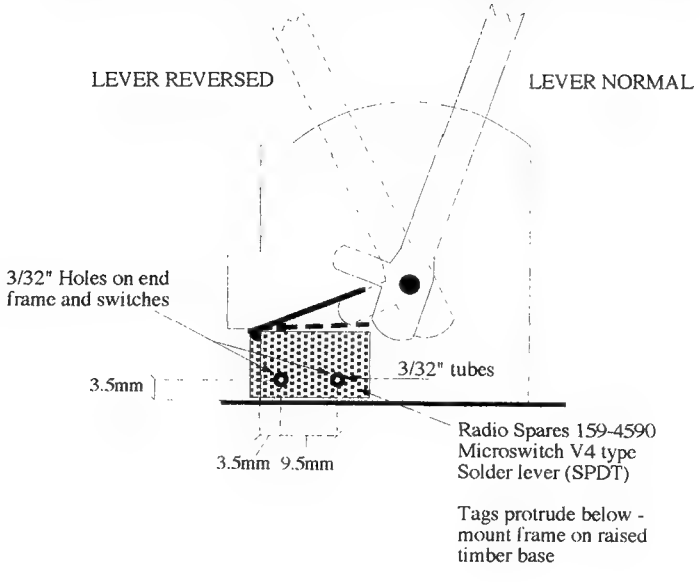
The AA23 vans were built after BR came into existence and resemble AA19 vans with the exception of the outside frame 'tee' members which lost the curly bottoms and went straight down with packing pieces to the solebar.

John F. C. Johnson
Camberley
Surrey

The article 'Uncommon Toad' in MRJ No. 92 is not accurate according to my records. No. 56810 was a Reading van but surely to Diagram AA2, not AA15, 20ft 0in over headstocks, not 24ft 0in, 13ft 0in wheelbase, not 16ft 0in, 6ft 6in verandah, not 8ft 6in, etc. My records from observation show that it was definitely 25T, not 20T. Change the number to 56682 – again a Reading van to Diagram AA15 as built in the model – and add some diagonal bracing, or 56681, allocated to Hereford Barton as it is, and it becomes accurate. Still an excellent article, though. Thanks, John Hayes.

Alf Powick
Tenbury Wells
Worcestershire

AMENDMENTS TO AMBIS LEVER FRAME John W Shaw.



More on 9Fs

I don't know about *Model Railway News*, but the August 1963 issue of *Model Railway Constructor* featured an article by E. C. Tranter on building a BR 2–10–0 in card, which also had a photo of an engine he made earlier – a Class 4 2–6–0. As to why he didn't use the Airfix kit, the opening words tell the story: 'The arrival on the market of a plastic kit for a BR Standard Class 9 2–10–0 did nothing to increase my enthusiasm or sense of urgency to build a model myself, as readers may imagine . . . ' In light of this, I doubt that the 'block trains of tankers' referred to in Chris Veitch's letter (MRJ No. 92) were the Airfix kits, but then there is no mention of these in the article itself.

John Price
Peterborough
Cambridgeshire

Further to Chris Veitch's letter on card-built models, I have a copy of the May 1955 *Model Railway Constructor*, which shows O gauge card models by H. C. Fudge, including an SR Class 13 4–4–2T and about a dozen assorted wagons. To judge by the photos, the builder was inappropriately named!

Those were the days when ERG card parts were freely available. All my OO stock of that period was built with these or scratchbuilt in card, except for wheels and underframes. In my view, a roll of laminated cartridge paper, suitably finished with shellac makes a stronger and more user-friendly locomotive boiler than plastic sheet. Incidentally, the cardboard backing to the envelopes in which MRJ arrives is a regular supply of useful material which I invariably save. I have used quite a lot of it for modelling – it makes excellent concrete slabs for a platform, for example!

MRJ continues to teach, inspire and delight. Many thanks.

John Allison
President, Warley MRC
West Midlands

Kit or scratch?

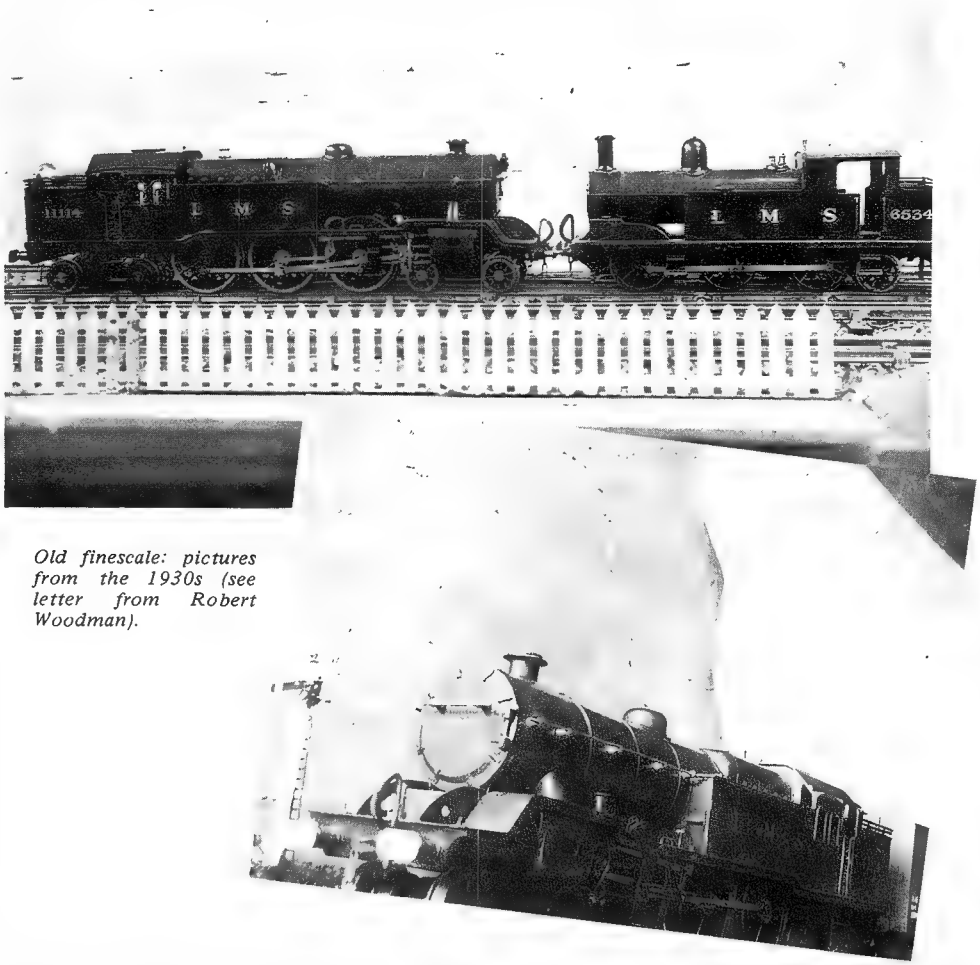
I was particularly interested in David Jenkinson's letter on scratchbuilding (MRJ No. 91) – I too prefer to scratchbuild whenever feasible, partly for the reason implied in David's letter: I don't have the skill to build from kits. One thing that seems to be overlooked when the relative merits of the two approaches are considered is that, with a kit, you get a set of parts *and* a set of instructions. Lots of words have been written about the quality of instructions. If the first instruction says 'solder part A to part B' that's what you have to do, and usually there's no getting round it.

If you scratchbuild, on the other hand, you have no instructions – you have to evolve your own method by trial-and-error. The important thing is that if you can't face a particular technique, you don't have to use it. The only skill in scratchbuilding, as I see it, is in avoiding doing anything skilful. Regarding relative cost, I don't think any particular kit is expensive if at the end you have a model which pleases you. However, if you have a pile of bent, badly-assembled and misaligned pieces, then you have wasted more money than if you've messed up a few bits of brass you've cut yourself. There's less incentive to go out and buy another expensive kit than there is to get some more brass. Perhaps it's the experience with expensive etched brass that convinces some people they can't solder.

Regarding time, I imagine that there is little to choose between kits and scratchbuilding provided the time is not wasted. I think I am reasonably efficient at scratchbuilding because I know what I am doing, but I have in the past spent an awful lot of time sticking together bits of Plastikard which didn't produce the result I was seeking. My first carriage was a disaster, but it taught me the technical lesson, such as how thick the sides needed to be, and also forced me to ask myself if I really wanted to go on. I decided that I could do better next time, so went to work again – quite a lot of time spent, but not very much money, especially at 'sixties prices.

Having said all this, I do feel that a lot of scratchbuilders are sitting in the slipstream of the kit builders. A substantial cottage industry has grown up serving the needs of kit builders who are not completely satisfied with what is in the box, and I now buy bits and pieces from the likes of MJT, D&S and Sparmac, which 20 years ago I would have to laboriously make. These are fringe benefits; the essential element of scratchbuilding – starting with a drawing and a sheet of raw material – isn't altered. I can't speak for Mr. Jenkinson on this, but I'll be surprised if he doesn't use small bits made by somebody. I look forward to reading his book to find out.

Barry J. Fleming
Leamington Spa
Warwickshire



Old finescale: pictures from the 1930s (see letter from Robert Woodman).

Old finescale

I have subscribed to MRJ for some years, but sometimes wonder if your readers think that finescale modelling started after the war. It obviously had a great leap forward postwar with the advent of scale track and wheels. However, with these exceptions we did make considerable efforts with our own O gauge layout to produce scale locomotives and rolling stock. The layout was built on fold-down baseboards in 1931 and continued for several years. It was in the garage, measuring 21ft x 15ft.

I enclose a photo of an ex-L&Y tank 4–6–4 built by my brother J. B. Woodman in 1934. He sensibly had it painted by the Leeds Model Co. who built the 0–6–2 in the picture, the price of which was £3 10s 0d. It took me six months to save this sum. The finish by LMC was excellent. They also sold very neat coaches, much improved by the painted windows being cut out and glazed. Other coaches we scratchbuilt with very thin plywood and a solid wood roof. Having joined my father's building firm, I was very keen that the buildings, all scratchbuilt, should be correctly detailed even down to open windows and door panels, and complete with internal fittings and lights.

Our conversion to electric traction was done by stretching copper wire on nails fixed to sleepers, which was less obtrusive than a thick nail, and cheap. Power was from a 12V car battery, via a home-made controller with a 9in handle, which gave very good control. Automatic couplings operated by a movable ramp were used when necessary. Points were operated by wires through fine tubes. It was fun to invent ways of doing things, using all sorts of salvaged materials.

A near miss by a bomb in the air raids on Exeter in 1942 virtually destroyed the layout and it was dismantled. To this day the baseboards remain folded down in the garage. The house was sold in 1949. All this might be of interest before the mists of time consign the layout to oblivion.

Robert Woodman
Totnes
Devon

DIARY

MARCH

2 **West Sussex O Gauge Group** exhibition at the Community Centre, Pond Road, Shoreham-by-Sea, Sussex. 11.00 – 5.00. Admission prices not advised.

8 **Luton Model Railway Club** exhibition at Stopsley High School, St. Thomas Road, Luton, Beds. 10.30 – 5.30. £2.00/£1.00/£5.00.

8 **The East Anglian Railway Museum (South West Essex Branch)** 23rd Romford exhibition at Marshalls Park Lower School, Pettits Lane, Romford. 10.00 – 5.30. £2.50/£1.00/£1.50.

8 **Wealden Railway Group** fifth exhibition at Chesham House WRVS Hall, South Street, Lancing, Nr. Worthing, West Sussex. 10.00 – 4.30. £1.00/50p.

8/9 **Basingstoke & North Hants Model Railway Society** exhibition at The Richard Aldworth Community School, Western Way, Basingstoke. 10.00 – 5.00. £2.00/£1.00/£5.00.

8/9 **Birtley Model Railway Engineers** exhibition at the Community Centre, Ravensworth Road, Birtley, Tyne & Wear. 10.30 – 5.00. £1.50/70p.

8/9 **Wyre Forest Model Railway Club** exhibition at Forest Glades Leisure Centre, Bromsgrove Street, Kidderminster, Worcs. 10.00 – 5.30 (5.00 Sun). £3.00/£1.50/£7.00.

8/9 **Heywood Model Railway Group** exhibition at Whitworth Civic Hall, Market Street, Whitworth (between Rochdale and Bacup), Lancs. 10.00 – 7.00 (5.00 Sun). £1.80/90p/£4.50.

15 **Slough & District Model Railway Club** eleventh exhibition at The Centre, Farnham Road (A355), Slough. 10.00 – 6.00. £2.00/£1.00/£5.00.

15 **Beckenham & West Wickham Model Railway Club** exhibition at Anerley Town Hall, Anerley Road, London SE20. £1.50/£1.00.

15 **Severnside O Gauge Group** Spring Convention at Gloucester Leisure Centre, Gloucester (5 minutes from Gloucester station). £3.50/£1.50 (Members £2.50/£1.25). Opening times not advised.

15/16 **Romsey & District Railway Modellers Society** 18th exhibition at Crosfield Hall, Broadwater Road, Romsey, Hants. 10.30 – 5.00 (4.30 Sun). £2.00/£1.00/£5.00.

15/16 **Keighley Model Railway Club** open weekend at The Clubroom, Walk Mills, off Coney Lane, Keighley, West Yorks. 10.30 – 5.00. Admission free.

15/16 **The Epsom & Ewell Model Railway Club** exhibition at North East Surrey College of Technology (NESCOT), Reigate Road (A240), Ewell, Surrey. 10.00 – 7.00 (5.00 Sun). £2.50/£2.00/£1.50.

15/16 **Stockport & District Railway Modellers** exhibition at the Town Hall, Market Street, Hyde, Cheshire. 10.00 – 5.00. £1.50/80p/£4.00.

16 **Winchester O Gauge Group** exhibition at Henry Beaufort School, Harestock, Winchester, Hampshire. 11.00 – 5.00. £1.50/£1.00.

22 **Talyllyn Railway Preservation Society (Bristol & West)** exhibition at St. Luke's Church Hall, Barton Hill, Bristol. 10.00 – 5.00. £2.00/£1.00.

22 **Abingdon & District Model Railway Club** exhibition at Abbey Hall, Abingdon, Oxon. 10.00 – 5.00. £1.80/£1.00/£4.60.

22 **Tring & District Model Railway Club** exhibition at The Red Cross Hall, Tring, Herts. 10.30 – 5.00. £1.00/50p/£2.50.

22 **1st Hurstpierpoint Scout Group** model railway exhibition at the New Scout Headquarters, Trinity Road, Hurstpierpoint, West Sussex. 10.00 – 5.00. Admission prices not advised.

22 **South Hants Model Railway Club** 28th exhibition at the City of Portsmouth Girls School, St. Mary's Road, Fratton, Portsmouth, Hampshire. 10.30 – 5.00. £2.50/£1.50/£5.50.

22 **Hazel Grove & District Model Railway Society** open day at Hazel Grove Methodist Church Hall, Wesley Street, Hazel Grove, Stockport, Cheshire. 10.00 – 4.00. Admission free.

22/23 **Widnes North Model Railway Group** exhibition at Queens Hall, Victoria Road, Widnes, Cheshire. 10.00 – 6.00 (5.00 Sun). £2.20/£1.40/£6.00.

22/23 **Stafford Railway Circle** 40th anniversary exhibition at Weston Road High School, Stafford. 10.00 – 6.00 (5.00 Sun). £2.80/£1.50/£7.50.

22/23 **Ilford & West Essex Model Railway Club** exhibition at The University of East London (Barking Campus), Longbridge Road, Barking, Essex. 10.00 – 6.00 (5.00 Sun). Admission prices not advised.

22/23 **North Downs Model Railway Circle** exhibition at The Community Hall, Orchard Hill (grounds of the old Queen Mary's Hospital for Children), Queen Mary's Avenue, Carshalton Beeches, Surrey. 10.00 – 5.00. £2.50/£1.50/£6.00.

22/23 **Salisbury and S. Wilts Railway Society** exhibition at South Wilts Grammar School for Girls, Stratford Road, Salisbury. 10.30 – 5.30 (4.30 Sun). £2.00/£1.00/£5.00.

27-30 **British Railway Modellers of Auckland** Biennial Convention. Includes clinics, workshops, banquet, layout tours plus a day trip to Bill Richmond's magnificent LMS main line out of Euston layout in dead scale 4mm. Details and registration from the convention convenor, 22 Salisbury Rd, Birkdale, Auckland 1310, New Zealand. (Fax 0064-9-5344268).

29-31 **Gresley Model Group** Easter exhibition at Gresley Social Centre and Gresley Scout Centre, Park Road, Church Gresley, Swadlincote, Derbyshire. 10.00 – 5.00. £2.00/£1.00/£5.00.

APRIL

5 **Bolton & District Model Railway Club** open day at New Chapel United Reformed Church Hall, New Chapel Lane, Horwich, Bolton. 2 miles from Junct. 6, M61. 10.30 – 4.30. £1.00/50p.

5/6 **Wolverhampton Model Railway Club** 22nd exhibition at Pendeford High School, Marsh Lane, Fordhouses, Wolverhampton. 10.30 – 6.00 (5.30 Sun). £2.50/£1.25/£6.50.

5/6 **Crawley Model Railway Society** exhibition at Tanbridge House School, Guildford Road, Horsham, West Sussex. 10.00 – 5.00 (4.30 Sun). £3.00/£1.50/£7.50.

5/6 **Heathcote O Gauge Society** exhibition at Humphrey Perkins High School, Cotes Road, Barrow upon Soar (near Loughborough), Leicestershire. 10.30 – 5.00. £2.00/£1.00/£5.00.

6 **Talyllyn Railway Preservation Society** (Wessex Area Group) exhibition at the Ferneham Hall, Osborn Road, Fareham, Hants. 10.15 – 5.00. £2.00/£1.00/£5.00.

HISTORICAL MODEL RAILWAY SOCIETY

Meetings for March 1997

Bedford Area: 26th March. 7.30 at the Addison Centre, Kempston. 'Research for Modelling': Peter Hall.

Bristol Area: 22nd March. 2.30 at the Somerset Room, Saltford Hall, Saltford, nr. Bristol. 'The Rhymney Railway': Jonathan David.

East Midlands Area: 13th March. 7.30 at the Ashfield Hotel, near Mansfield. 'Tempsford – anatomy of a Station': Peter Hall.

Essex Area: 21st March. 7.30 at St. Mary's Church, Great Baddow, Chelmsford. 'Stratford Running Shed, Part 2': Stan Hinbest.

London Area: 10th March. 7.30 at The Prince Regent, Marylebone High Street, London. 'Modelling the Stratford-on-Avon and Midland Junction Railway': Colin Underwood.

Sussex Area: 13th March. 7.15 at London Road Station, Brighton. 'Model Bashing – improving your kit or conversion': Philip Hall.

West Midlands Area: 5th March. 7.30 at the Perton Community Centre, Perton Shopping Precinct, Wolverhampton. 'Treasures at Stamford': Joe McLelland.

SCALEFOUR NORTH 1997

Horbury School, near Wakefield, Saturday & Sunday 22nd & 23rd March.

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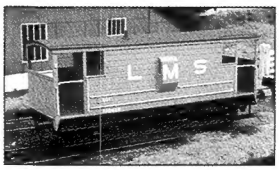
GWR 20 ton Toad, Diagram AA19 . . . . . £11.50
BR 20 ton Standard . . . £12.50



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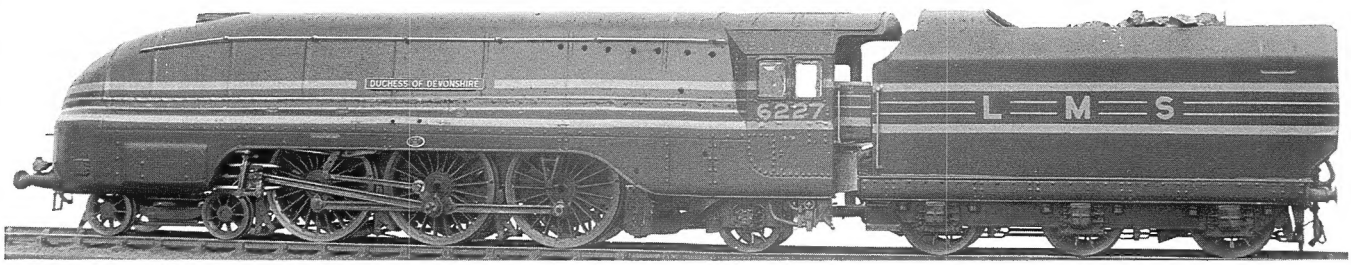

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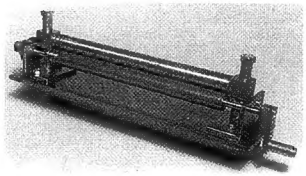

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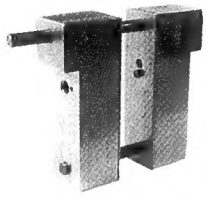

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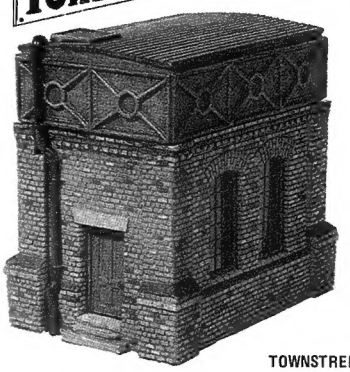

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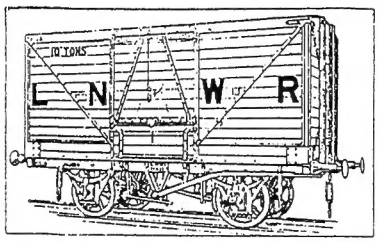

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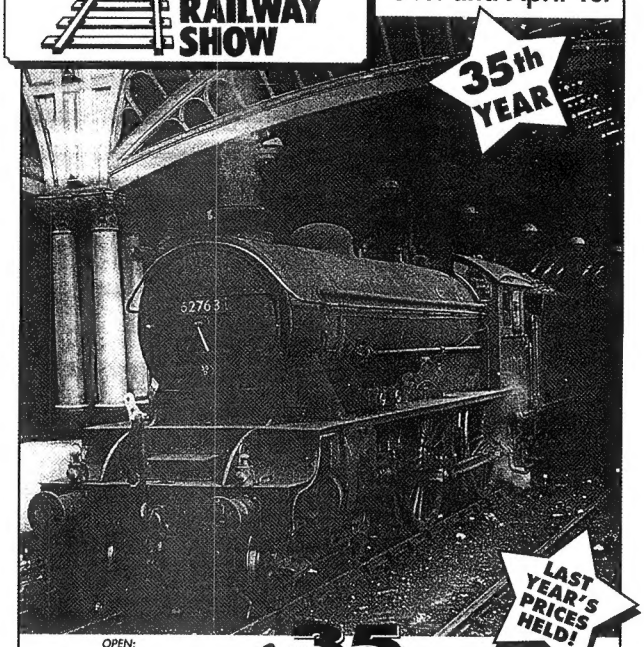

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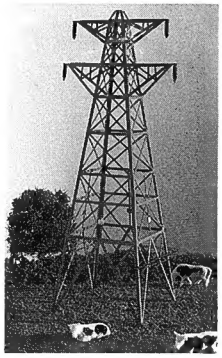

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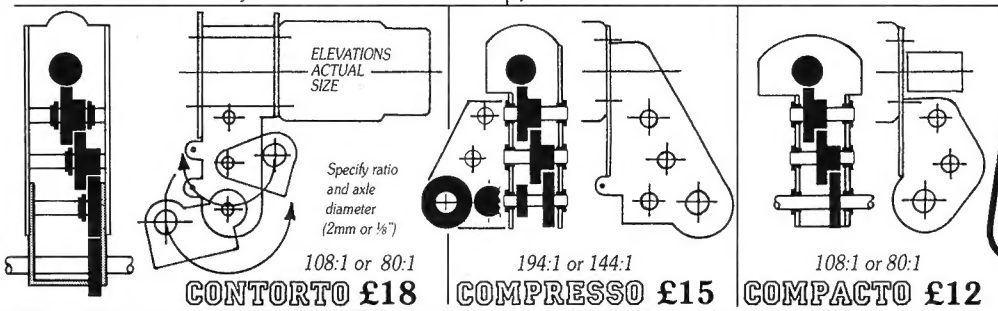

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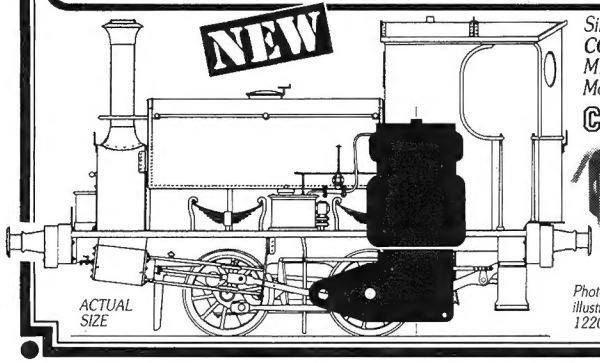

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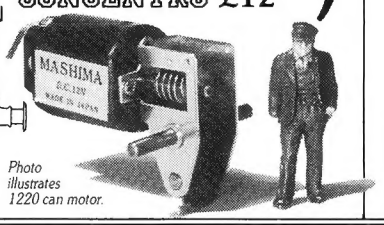

Photo illustrates 1220 can motor.

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